**Position applied: Data Analytics Company: Vindiata PVT. Ltd**

**Title: Analytics Position Case Study**

**Topic: Game play data**

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**Date: 22nd November 2024**

# Introduction:

# 1.1 Background

The main purpose of this case study is to understand the user engagement in the online gaming apps and how to retain existing users and new users. Majorly targeted on gameplay activity during the month of October. The analysis mainly involves user activity, calculating loyalty points, recognizing top players, rewarding for most contributed players, understanding insights of the game and user activities and behaviors and rank players as per the loyalty points.

# 1.2 Objective

The main objective of this study are:

1. To check the user engagement through deposit, withdrawal, gameplay for the month of October
2. Rank players as per their achievements in the game
3. Identify insights and patterns in players behaviors which may help in user retention and engagement and joining of new users into the platform.

# Data Overview

### Data Sources

Data is provided by the company for the month of October, it mainly consists of 3 sets of csv file data:

1. Game Play data: This csv file consists of all the user details about the games played by the users along with date and time details and number of games
2. Deposit data: this csv file consists of user deposit amount details in the game, along with date and time
3. Withdrawal data: this csv file consists of user withdrawal details along with time and date.

### Data Structure

Data structure are correctly organized using rows and columns in the csv file along with column names.

# Methodology

**Data Cleaning**

In this data set, following cleaning steps are used –

1. Removing Duplicate values

2. Formatting the date and time columns

3. Concat function was used to combine the data together

**Data Analysis:**

1. Descriptive Analysis- analyzed total and average withdrawal amount, total deposit amount and total gameplay of the users.
2. Ranking Analysis- rankings were given to players as per their loyalty points, with highest being the top rank
3. Categorization analysis- players were sub categorized into winner, runner up, elite, legend, champion and challenger to distribute the bonus pool money

**Loyalty point calculation:** The Loyalty points were calculated using the formula-

Loyalty Point = (0.01 \* deposit) + (0.005 \* Withdrawal amount) + (0.001 \* (maximum of (#deposit - #withdrawal) or 0)) + (0.2 \* Number of games played)

which seems fair for the calculation of the loyalty points of the players

# Analysis and findings

### Descriptive Statistics

### Average deposit amount- 5492.47

### Average deposit amount per user in a month – 104669.1

### Average number of games played per user – 341.53

### Other lists and details of users and their loyalty points for specific time and for the month of October are exported into excel file.

**Ranking**

After the calculation of the loyalty points players were divided into sub category to distribute the price money.

Following are the categories made to distribute the pool bonus of 50,000 money as per the percentage:

1. Winner – Rank 1 – 10%
2. Runner up – Rank 2 to 5 – 20%
3. Elite -Rank 6 to 15 – 21%
4. Legend – Rank 16 to 30 – 27%
5. Champion – Rank 31 to 40 – 12%
6. Challenger – Rank 41 to 50 – 10%

As per the distribution Players in the winner league got a price bonus of 5,000

Runner up league players got price of 2,500 each

Elite league players got price of 1,050 each

Legend league players got price of 900 each

Champion league players got price of 600 each

And the Challenger league players got price of 500 each.

### Insights

### Users who deposited frequently and withdrew less gained higher loyalty points, which may specify that they’re likely to remain more engaged in the game

### Game participation is very important as significant portion of the loyalty points came from playing games, which highlights being engaged in the game play.

# Recommendations

Assign more points for users who engage more frequently for more games played, also we can reward more points to frequent depositors, we can set a certain threshold after which more points will be multiplied with deposit amount

we can also introduce limit for accumulating excessive loyalty points for depositors and withdrawals.

we can introduce daily login bonus or lucky try to win bonus or points.

And weekly and monthly events to win bonuses or awards which will help to move forward in the game.

Use of public leaderboards so the players can track and compare progress globally and with friends

Invite bonus should be introduced for the person inviting as well as person joining.

# Conclusion

The analysis provided a extensive view of users engagement in the game. Players who did frequent deposit and played consistently ranked higher on the loyalty points. Which indicates financial and time invested in the game play, played a crucial role.

These insights can help to improve user engagement strategies to retain current users and encourage lower league players to invest more time and deposits into the game and attract new users to the platform.