

Analytics Position Case Study

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ABC is a real-money online gaming company providing multiplayer games such as Ludo. A user can register as a player, deposit money in the platform and play games with other players.

If he/she wins the game, they can withdraw the winning amount while the platform charges a nominal fee for the services.

To retain players on the platform, the company ABC gives loyalty points to their players based on their activity on the platform.

Loyalty points are calculated on the basis of the number of games played, deposits, and withdrawals made on the platform by a particular player.

$$\text{Loyalty Points} = (0.01 * \text{deposit amount}) + (0.005 * \text{withdrawal amount}) + (0.001 * (\text{maximum of } (\# \text{deposit} - \# \text{withdrawal}) \text{ or } 0)) + (0.2 * \text{Number of games played})$$

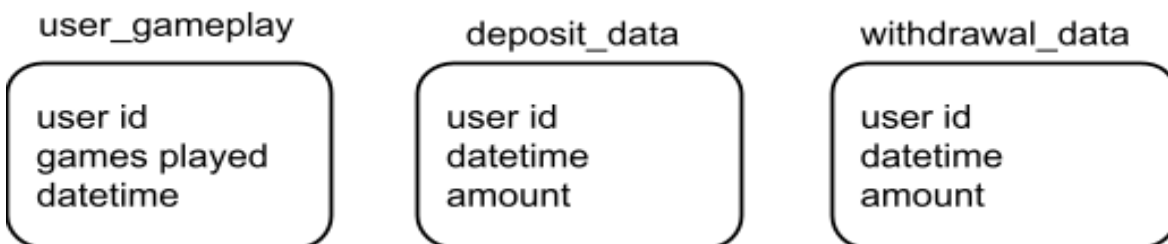
At the end of each month, total loyalty points are allotted to all players. Out of which the top 50 players are provided cash benefits.

Tools:

Database name: vindiata_case_study

Tables: user_gameplay, deposit_data, withdrawal_data

Database Schema:

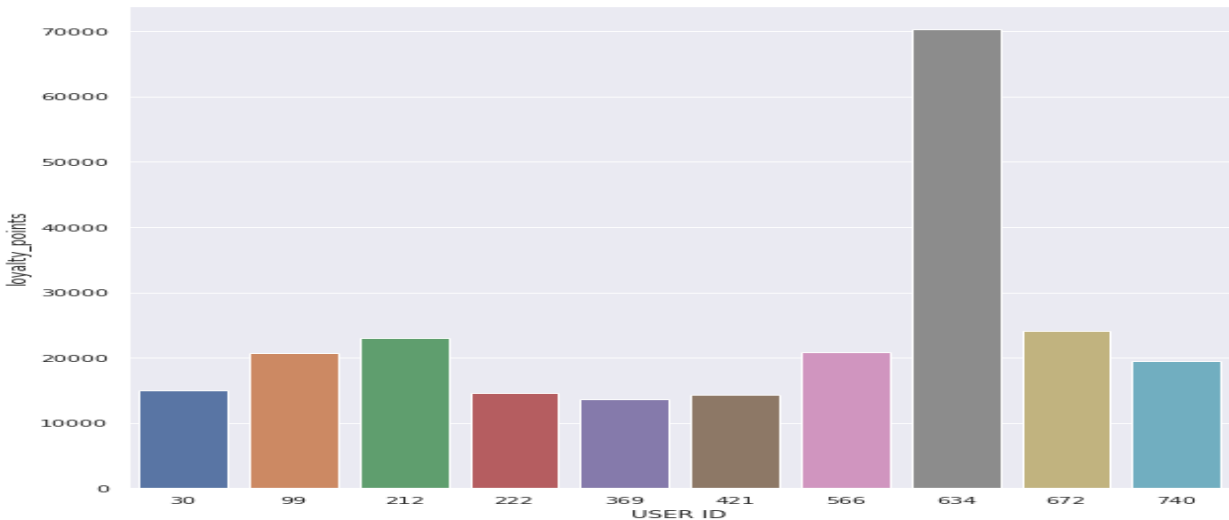


Data Summary:

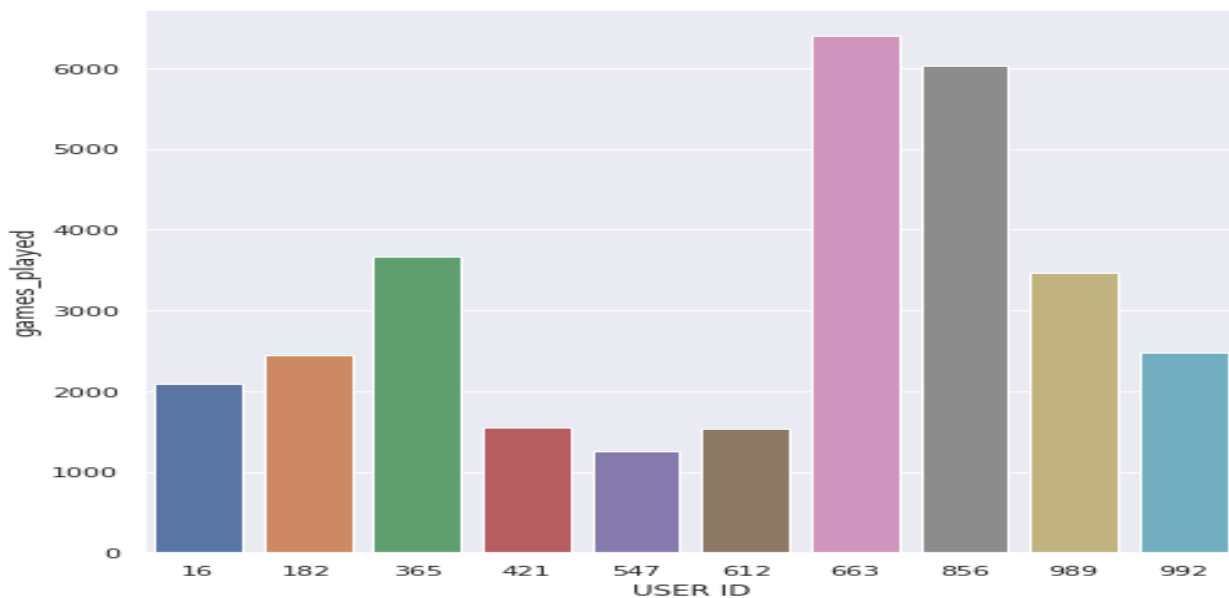
1. **user_gameplay**: 355000 rows, 3 columns
 2. **deposit_data**: 17000 rows, 3 columns
 3. **Withdrawal data**: 3000 rows, 3 columns
- **Join:** I used inner join to connect columns of different tables and extract the desired results. Using join I also created new tables so that I can extract the data easily.

- **row_number():** I used the row_number() window function to rank the user according to the loyalty points and the number of games played.

Top 10 users with the highest loyalty points in October.



Top 10 users with the maximum number of games played

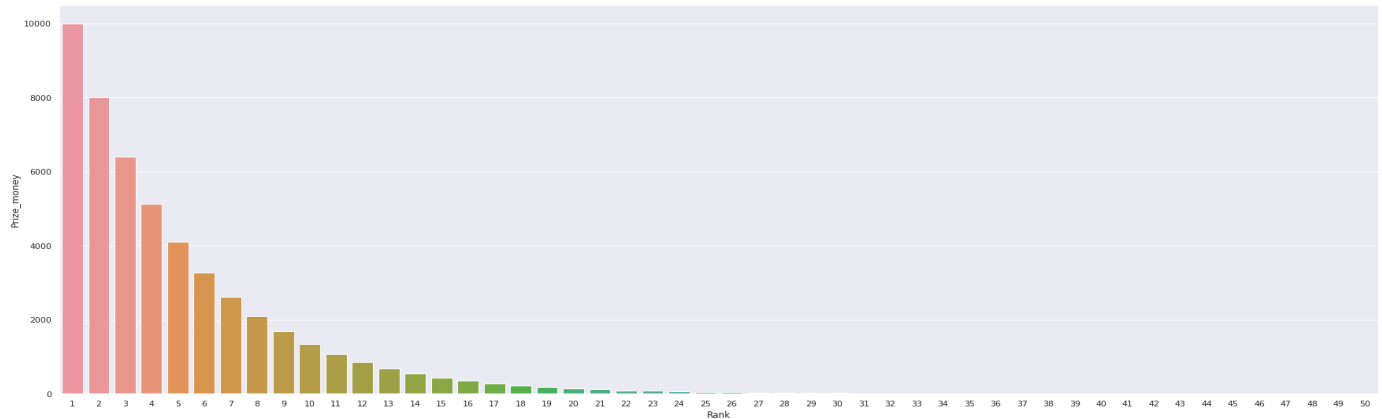


Prize distribution: To distribute the prize money of 50000 INR among the top 50 players in the month of October. I used the formula:

$$prize = ((1 - d)/(1 - d ** n) * d ** (p - 1)) * A$$

where d =distribution constant $0 < d < 1$
 n =number of winners.
 A =Total prize money
 p =rank/position of user
I used $d=0.8$ as there were some tie cases.

Prize distribution among top 50 players



Loyalty Formula: Loyalty formula is not unfair but it can be improved using different ways so that most loyal users will get maximum benefits.

- the number of games won by a user.
- If continuously 5 wins then increase loyalty points by 5 or any suitable points.
- Loyalty points for being active on the app, will help gain profit for the business as well.