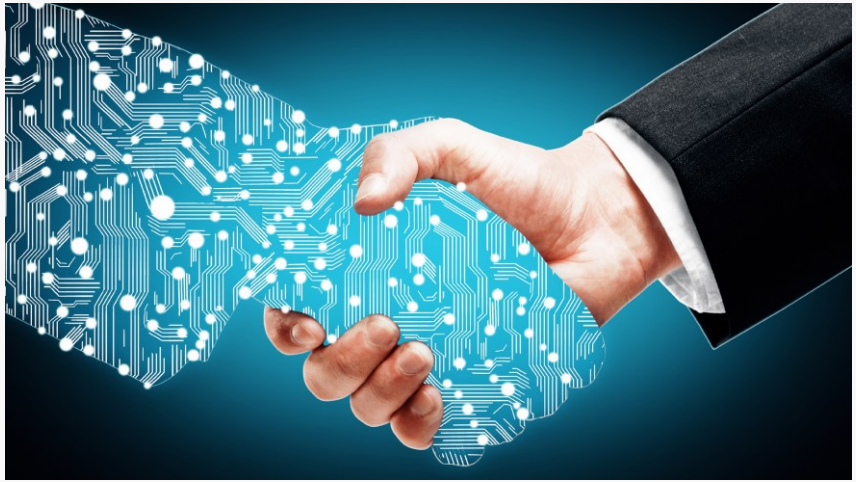


Online gaming behaviour dataset

BUSINESS CONTEXT AND PROBLEM STATEMENT

BUSINESS CONTEXT

- The online gaming industry has seen explosive growth over the past decade, fueled by advancements in internet access, mobile technology, and digital entertainment platforms.
- Understanding player behavior is crucial for game developers, marketers, and platform owners to improve user engagement, increase player retention, and optimize monetization strategies.
- This dataset represents various attributes of online gamers, which may include player demographics, gaming frequency, purchasing behavior, device preferences, and social or competitive involvement.
- By analyzing this data, gaming companies can identify key trends, segment their user base, personalize game experiences, and address churn risks.

BUSINESS CONTEXT AND PROBLEM STATEMENT

PROBLEM STATEMENT

- Despite having large volumes of user interaction data, many online gaming companies struggle to effectively analyze player behavior to drive business decisions.
- Understand player profiles based on gaming behavior and demographics.
- Identify patterns among high-value or highly engaged users.
- Predict churn risks by recognizing behaviors that correlate with decreased engagement.
- Reference: https://www.kaggle.com/datasets/rabieelkharoua/predict-online-gaming-behavior-dataset

Image source: icons8

DATA OVERVIEW

- These dataset contains 40035 rows 13 columns with no duplicates.
- Player ID: Unique identifier for each player (**Data Type:** Numerical).
- Age: Age of the player (**Data Type**: Numerical).
- Gender: Gender of the player (**Data Type:** Categorical).
- Location: Geographic location of the player (**Data Type:** Categorical).
- Game Genre: Genre of the game the player is engaged in (**Data Type:** Categorical).
- Play Time Hours: Average hours spent playing per session (**Data Type:** Numerical).
- In Game Purchases: Indicates whether the player makes in-game purchases (**Data Type:** Boolean).
- Game Difficulty: Difficulty level of the game (**Data Type:** Categorical).
- Sessions Per Week: Number of gaming sessions per week (**Data Type:** Numerical).
- Avg Session Duration Minutes: Average duration of each gaming session in minutes (**Data Type:** Numerical).
- Player Level: Current level of the player in the game (**Data Type:** Numerical).
- Achievements Unlocked: Number of achievements unlocked by the player (**Data Type:** Numerical).
- Engagement Level: Categorized engagement level reflecting player retention ('High', 'Medium', 'Low') (**Data Type:** Categorical).
- **Target Variable:** Engagement Level

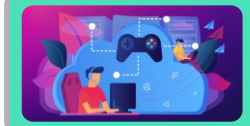
HOW DESCRIPTIVE ANALYSIS WORKS WITH ONLINE GAMING BEHAVIOR DATASET

- The Descriptive analysis is all about summarizing the trends and patterns.
- With this dataset we can perform the following things:

Player Demographics Overview

→Distribution of players by age, gender, and location.

→Preferred game genres among different age groups or regions.



Game Behavior Trends

→Distribution of game difficulty levels played by users.

→Number of achievements unlocked by different players.

Engagement and Spending Behavior

→Number of players at each engagement level (Low, Medium, High) and their percentage.

→Percentage of users making in-game purchases.

Retention Analysis

→Number of active vs. inactive players (weekly/monthly).

→Trends in session frequency over time.

TOOLS CAN BE USED

SQL,POWER BI,PANDAS,MATPLOTLIB, SEABORN

HOW DIAGNOSTIC ANALYSIS WORKS WITH ONLINE GAMING BEHAVIOR DATASET

- The Diagnostic analysis is all about knowing reasons behind observe trends.
- With this dataset we can perform the following things:

Factors Affecting Player Engagement

→Impact of game difficulty on player engagement (e.g., harder games may reduce playtime).

→Relationship between playtime and achievements unlocked.

Retention & Churn Analysis

→Factors influencing session frequency (higher or lower).

→Players with fewer unlocked achievements are more likely to leave the game.

Gender-Based Gaming Behavior

→Differences in playtime, session frequency, and spending patterns between genders.

→Popular game genres vary across different gender groups.

Tools & Techniques can be used

Python(Pandas, numpy, Scikit-learn), Correlation Analysis

HOW PREDICTIVE ANALYSIS WORKS WITH ONLINE GAMING BEHAVIOR DATASET

- The Predictive analysis is used for forecasting and predicting the engagement rates and churn prediction.
- With this dataset we can perform the following things:

Predicting Player Engagement Levels

Use classification models (Decision Trees, Random Forest, Logistic Regression) to predict whether a player will be "Low", "Medium", or "High" engagement based on playtime, sessions per week, and achievements.

Churn Prediction

Train a machine learning model to predict whether a player will stop playing based on past gaming behavior.

Tools & Techniques can be used

Python, Models like Random forest, Gradient Boosting, Light BGM, CatBoost

Thank you!