Decode Gaming Behavior

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Introduction

In this presentation, we will explore a game dataset and uncover valuable insights into player behaviour, performance, and engagement. We will utilize SQL queries to extract and analyze data from tables representing player details and level details. Through this analysis, we will gain a deeper understanding of how players interact with the game and identify areas for improvement.

Abstract

- This presentation dives into game data analysis, employing SQL queries to unveil player performance and engagement insights.
- We will examine various game aspects, including player attributes, level details, and performance metrics.
- By delving into this data, we aim to comprehend player behaviour, identify patterns, and extract valuable knowledge to enhance the gaming experience.

Dataset Description

- The data is segregated into two tables:
  - Player Details Table:
    - Stores player information like ID, name, and system-generated level codes.
  - Level Details Table:
    - Captures details specific to each game level played, including player ID, device ID, timestamps, level and difficulty information, scores achieved, lives earned, and kill/headshot counts.

Exploring the Data

- We will employ SQL queries to interact with the game data stored in the database.
- These queries will enable us to extract, filter, and analyze data to answer questions and uncover trends.

Example Queries

- **Query 1: Identify players at Level 0, along with their device IDs, names, and difficulty levels**.

```
SELECT pd.P_ID, ld.Dev_ID, pd.PName, ld.difficulty AS Difficulty_level
FROM Player_Details pd
INNER JOIN Level_Details ld ON pd.P_ID = ld.P_ID
WHERE ld.level = 0;
```

- **Query 2: Calculate the average kill count for players with two extra lives earned and who crossed at least three stages, grouped by their Level 1 code**.

```
SELECT L1_code, AVG(kill_count) AS avg_kill_count
FROM Player_Details pd
INNER JOIN Level_Details ld ON pd.P_ID = ld.P_ID
WHERE lives_earned = 2
  AND stages_crossed >= 3
GROUP BY L1_code;
```

Further Analysis

- Examples include:
  - **Identifying top performers**: Analyze scores, kill counts, and other metrics to recognize players consistently exceeding benchmarks.
  - **Examining device usage**: Investigate how players interact with the game on different devices and identify any performance variations.
  - **Understanding player progression**: Track player progress through levels, difficulty changes, and earned rewards to gauge engagement and identify potential challenges.

Unveiling To Performers

- We can identify players who consistently outperform others by analyzing metrics like:
  - **Scores**: Uncover players who consistently achieve high scores across various levels and difficulties.
  - **Kill counts and headshots**: Recognize players demonstrating exceptional combat skills.
  - **Stage completion times**: Identify players who efficiently navigate and complete levels.

Investigating Device Usage

- By examining how players interact with the game on various devices, we can:
  - **Identify preferred devices**: Gain insights into which devices players use most frequently.
  - **Uncover performance variations**: Investigate any discrepancies in performance metrics (e.g., scores, completion times) across different device types.
  - **Optimize for specific devices**: Adapt the game experience to cater to the strengths and limitations of popular devices.

Understanding Player Progression

- Tracking player progression through the game allows us to:
  - **Assess game difficulty**: Evaluate if the game's difficulty curve is appropriate, identifying points where players might encounter challenges or lose interest.
  - **Measure engagement**: Gauge how players progress through the game, indicating their level of engagement and interest in continuing.
  - **Identify drop-off points**: Recognize points in the game where players abandon gameplay, allowing for potential improvements or interventions to retain players.

Conclusion

- Game data analysis provides valuable insights into player behavior, performance, and engagement.
- By leveraging SQL queries, we can extract and analyze data to:
  - Identify top performers and understand their strategies.
  - Investigate device usage patterns and optimize accordingly.
  - Track player progression and refine the game's difficulty and engagement.

Thank You.....