Gaming Platform Arrests Player Churn **and Boosts Business Growth**

◢ **Case Study**

Overview
Enhancing player retention

An online gaming platform, at the forefront of the gaming revolution for over three decades, was experiencing significant churn among bad and mediocre players, who were canceling their gaming subscriptions, particularly in the Blackjack game. The company consulted with Zensar to deploy an AI-enabled solution to enhance player retention.

Zensar's brief:
Deliver a deep learning AI solution to identify suboptimal players and recommend personalized strategies to improve player retention rates.

Beyond the brief:
We've also laid the foundation to detect opportunistic players who manipulate the system to win games continuously, negatively impacting the overall win rates of other players.

Challenges
Arresting player churn

The client's in-house team needed to address the alarming rate of player churn and needed help with achieving two key goals:

- Identify players at risk of canceling their subscriptions.
- Develop targeted strategies to improve their gaming experience.

Solution
Drawing on deep learning AI capabilities

We started the engagement by gaining a deep understanding of the gaming ecosystem and player experiences. Combining our insights from this process with our expertise in deploying deep learning AI models, we delivered a solution that effectively addressed the client's business needs.

Data analysis: We categorized the players into four categories: super good, good, mediocre, and underperforming. This categorization was enabled by three types of analysis that we performed on Blackjack players' data:

- **Win-loss analysis:** For each player, we calculated the win-ratio, which is the ratio of the winning games count to the total games played. We then used it to categorize players into the four categories.

- **Return-to-player (RTP) score analysis:** We calculated the RTP score, which is the ratio of the total winning amount to the total wager amount. Using the RTP score, we categorized players into the four categories.

- **Optimal playing behavior analysis:** After conducting the two analyses mentioned above, we applied machine learning (ML) classification algorithms to predict the player class for future Blackjack games.

  We compared the decisions made by players in Blackjack games based on their hand (player's card and dealer's card) with a basic Blackjack strategy table that outlines the optimal strategy for playing Blackjack and increasing the probability of winning. Leveraging this data, we calculated the ratio of optimal playing decisions to the total decisions made by players in all games and used it to categorize players into the four categories.

Enablement: We leveraged these key enablers to implement the solution:

- **Model development:** Azure Databricks was used for developing the model, as it offers a unified analytics platform that simplifies big data processing and accelerates machine learning workflows.
- **Production job execution:** Azure Databricks was also used for running production jobs, as it ensures scalable, reliable, and optimized performance for big data processing and analytics workflows.
- **Data storage:** A Federated Data Lake (FDL) was used for data storage, as it enables seamless access and analysis of diverse data types across multiple storage systems, enhancing data management and search efficiency.

Deployment: Guided by our commitment to "experience-led everything," we deployed an AI-enabled solution that delivers on these priorities:

- **Minimize churn:** By providing personalized strategies to struggling players, the solution helps decrease the cancellation of gaming subscriptions.
- **Improve player retention:** The solution enhances gaming experiences for bad and mediocre players, leading to higher retention rates.
- **Enhance segmentation:** Leveraging the AI model, the solution enables more precise player segmentation, allowing for more targeted marketing and engagement strategies.
- **Reduce opportunistic fraud:** Automatic detection of fraudulent behavior by the system helps prevent manipulation or misuse of the blackjack game.

Solution highlights

- **Identify:** The deep learning AI model analyzes player performance and differentiates between various types of players, with a specific focus on identifying suboptimal players.
- **Strategize:** The AI system not only identifies these players, but also helps tailor strategies to enable these players to play Blackjack more efficiently, enhancing their overall gaming experience.
- **Monitor:** The solution monitors the players' behavior and transactional patterns to detect fraudulent signals.

Impact

Revived business growth

According to internal benchmarks, these results were delivered:

- Enhanced player experiences leading to minimized subscription cancellations
- Precise player segmentation leading to targeted marketing and engagement strategies
- Advanced monitoring capabilities to detect and prevent fraudulent behavior

Business outcomes: With reduced churn and improved player retention, the gaming platform is poised to boost subscription renewals and overall revenue.

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Part of the $4.8 billion RPG Group, we are headquartered in Pune, India. Our 10,000+ employees work across 30+ locations worldwide, including Milpitas, Seattle, Princeton, Cape Town, London, Zurich, Singapore, and Mexico City.

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