

**SPOTFLOCK**

The global gaming industry continues to grow, and it is expected to grow at 9.6% per year between 2014 and 2019 with a stable revenue stream. When a new casual game is released, the company focuses on marketing to attract new users. However, if the number of users is enough, the company would do better by focusing more on user retention, because a small change in the retention rate can have much larger impacts on the profit. One of the major problems faced by a mobile gaming app is the poor retention rates of players. Due to a variety of games coming in the market, people tend to get bored of playing a game for some time and switch to another game and so on. We use the term churn to refer to the circumstance that someone who was in a service leaves it. The main factors affecting this are uniqueness, difficulty level, bad UI, lack of accomplishment, etc. Predicting this type of problem is a real challenge and the focus of business development shifts from attracting new customers to retain existing ones. Hence to predict this type of problem, the behavior of customers needs to be recorded by analyzing the player activity, the number of sessions played by the player, etc. The commercial companies can work on this sequence to find answers to questions like which feature triggered the customer to start his/her journey and use predictive modeling techniques to forecast future behavior.

A technology company, SPOTFLOCK, has a popular word gaming app namely “CryptGuessWord” which are being played millions of players all over the world for more than 6 months. The game has various difficulty stages which the player must complete to get to the next stage. As per the major problem faced by the mobile gaming companies, Spotflock is worried about the retention of the current players and wants to use proper analysis to tackle the issue of churning by providing the players extra rewards, more energy points, etc.

You are a data scientist at the Spotflock, and you are assigned the task:

1. Identify which individuals Who are active and who are churned and provide that info against their ID number in the file provided for submission.

2. Do their segmentation and provide suggestions on what are characteristics of an individual that would be Active or Churned.

**Submit the following 2 documents on D2C by 20th November:**

1. test.csv sheet with values for each player\_id
2. A PowerPoint presentation - maximum of eight slides briefing the following:

a. Insights gained via exploratory data analysis

b. Assumptions made

c. Reasoning/logic for approach & method selected

d. Validation methodology

e. Results obtained from modeling

f. A summary slide

**Data Description**

You have been provided with Train data (train.csv) and Test data (test.csv) with the following variables:



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| **Data point** | **Description** |
| player\_id | Unique ID given to player |
| sessions | Number of sessions |
| session\_time | Session duration |
| words | Number of words correctly guessed |
| rounds\_completed | Number of rounds completed |
| stars\_gained | Number of stars earned by completing rounds successfully |
| energy\_spent | Total energy points spend |
| energy\_left | Number of energy points left |
| win\_ratio | The ratio of the total number of winning to the number of games played |
| total\_games | Total number of games played |
| friends | Number of games played with friends |
| grind\_spent | Grind currency spend to buy in-game items |
| grind\_earned | Grind currency earned by completed different levels |
| premium\_left | Premium currency left in wallet |
| premium\_earned | Premium currency earned |
| premium\_spent | Premium currency spend on in-app store |
| lottery\_wins | Number of times lottery win in wheel-spin |
| difficulty | Difficulty level |
| grind\_left | Grind currency left |
| level | Current level of a player |
| dollars | Dollars spend |
| playeractivity | Player activity status |

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| Energy are life needed to play a game |
| Grind & Premium are two type currency in a game |