BCN Analytics & Social Point Data Hackathon

November 2015

The Challenge

THE CHALLENGE

- **The challenge**
  - The goal of this analysis is to predict which users will churn in the first 7 days of playing the game, using the data from only the first 48 hours of game play

- **The data**
  - The data you have is the data of each user´s game play in the first 48 hours, for those playing on Apple devices

- **Definition of churn**
  - We define churn as the user has not opened the game in 14 days (we have included a 1/0 flag to tell you if a user has churned so you don´t need to calculate this)

Game Notes

IMPORTANT NOTES ON THE GAME

- **The game is free-to-play**
  - There are no required purchases, so if a user has paid in the game that is a voluntary payment
- **The first three levels of the game are the "tutorial"**
  - During this time the user simply follows what "Deus" tells them. From level 4 the user is playing on his own
- **The purpose of the game is to collect Dragons**
  - You obtain a dragon by breeding two dragons, or directly by buying the dragon in-game
- The game is multi-platform
  - That means you can play the game on an Apple device or Androir or Facebook, or all three if you wish
- Here is a short video of the game

The Data

IMPORTANT NOTES ON THE DATA

- **The following variables are in the dataset:**
  - **User_id:** a unique identifier for each Dragon City user
  - **Date_register:** the first time the user downloaded the game (this could be on either an Apple or Android phone, or on Facebook)
  - **Date_register_ios:** the first time the user downloaded the game onto an Apple device
  - **Date_last_logged:** the last time a user played the game (this could be on either an Apple or Android phone, or on Facebook)
  - **Date_last_logged_ios:** the first time the user downloaded the game onto an Apple device
  - **register_ip_country:** the two digit country code of the user
  - **register_version:** the version of the game that the user started the game with, higher numbers refer to more recent game versions

The Data

IMPORTANT NOTES ON THE DATA

➢ **The following variables are in the dataset (Continued):**

- **register_source_ios:** this variables tells us how the user came into the game. If the field is empty then the user came in “organically”, that is they downloaded the game because they saw a friend playing it or they saw the game somewhere and decided to play it. If there is a value in the field it means that the user has clicked on one of our advertisements and then downloaded the game. The name in the field refers to where the advertisement was placed.

- **is_marketing_install:** this is FALSE if the user came into the game organically and TRUE if the user came through one of our advertisements (this variable is built from the register_source_ios variable)

- **register_device:** this tells you what kind of Apple device the user downloaded the game onto. A list that maps this code back to the actual Apple device can be found here

- **device_age:** is SocialPoint´s classification for whether a device is “new” or “old”

The Data

IMPORTANT NOTES ON THE DATA

- **The following variables are in the dataset (Continued):**
  - **payer:** this variable is = “payer” if the user made a real money payment within the first 48 hours, or “no_payer” if they did not
  - **num_sessions**: this is the number of times that the user opened and played the game within the first 48 hours after registration
  - **churn:** this is = 1 if the user churned out of the game within 7 days of registration, or 0 if the user was still playing after this time
  - **max_level_reached:** this is the game level that the user obtained in the first 48 hours
  - **reach_level_3:** this variable is 1 if the user passed through the tutorial and 0 if the user left the game before finishing the tutorial
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The Data

IMPORTANT NOTES ON THE DATA

- **The following variables are in the dataset (Continued):**
  - **cash_spent:** this is the total number of gems (in-game currency) that the user spent within the first 48 hours
  - **spents:** this is the number of times the user spent gems (in the first 48 hours)
  - **dollar_gross:** this is the value of real money that the user has spent in the game (in the first 48 hours)
  - **transactions:** this is the number of times the user spent real money in the game (in the first 48 hours)
  - **dragons_lvl_up:** this is the number of dragons that the user has levelled up
  - **lvls_up:** this is the number of times that a user has fed their dragon to the next level

The Data

IMPORTANT NOTES ON THE DATA

- **The following variables are in the dataset (Continued):**
  - **breedings:** this is the number of times that a user has bred a dragon (within the first 48 hours)
  - **number_cs_ticket:** this is the number of times that the user has submitted a ticket to SocialPoint´s customer success team (within the first 48 hours)
  - **has_cs_ticket:** this is a 1/0 variable, 1 if the user has submitted a customer success ticket and 0 if they have not (within the first 48 horus)
  - **login_errors:** occassionally users have trouble logging into Dragon City (if the server´s are down for instance). This variable records the number of times the user has had that problem
  - **has_login_error:** this is a 1/0 variable, 1 if the user has experienced a login error, 0 if not
  - **number_dragons:** this is the total number of dragons that the user had at the end of 48 hours

The Data

IMPORTANT NOTES ON THE DATA

- **The following variables are in the dataset (Continued):**
  - **facebook_connected:** the game allows users to connect to Facebook so that they can share their progress with their friends, and so that their friends can help them to progress in the game. This variable is 1 if the user has connected to Facebook in the first 48 hours, 0 otherwise
  - **number_goals:** the game suggests a number of things that the users can do to progress, these are called goals and this variable tells you how many goals were accomplished during the first 48 hours
  - **played_day_2**: is a 1/0 variable that tells you if the user played on the second day as well as the first
  - **attacks:** users can battle their dragons in the game, this variable tells you how many battles the user did in the first 48 hours
  - **attacks_wins:** this variable tells you the number of battles that the user won in the first 48 hours

The Data

IMPORTANT NOTES ON THE DATA

- **The following variables are in the dataset (Continued):**
  - **last_cash:** this variable tells you how many gems the user had at the end of 48 hours
  - **last_gold:** the amount of gold the user had at the end of 48 hours
  - **last_food:** the amount of food the user had at the end of 48 hours
  - **dragons_bought:** this variable tells you how many dragons the user acquired by spending gems in the first 48 hours
  - **has_dragons_bought:** this is a 1/0 variable that is 1 if the user spent gems on buying a dragon and 0 if not (in the first 48 hours)
  - **num_sessions_1d:** the number of times the user opened the game on the 1st day
  - **num_sessions_2d:** the number of times the user opened the game on the 2nd day