

# How can we increase revenue from Catch the Pink Flamingo?

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# Problem Statement

- Eglence Inc. could rely on analytics-driven approach to identify new revenue opportunities and gain insights into players behaviors
- Data sources:
  - Operation data of game activity
  - Chat data of game players

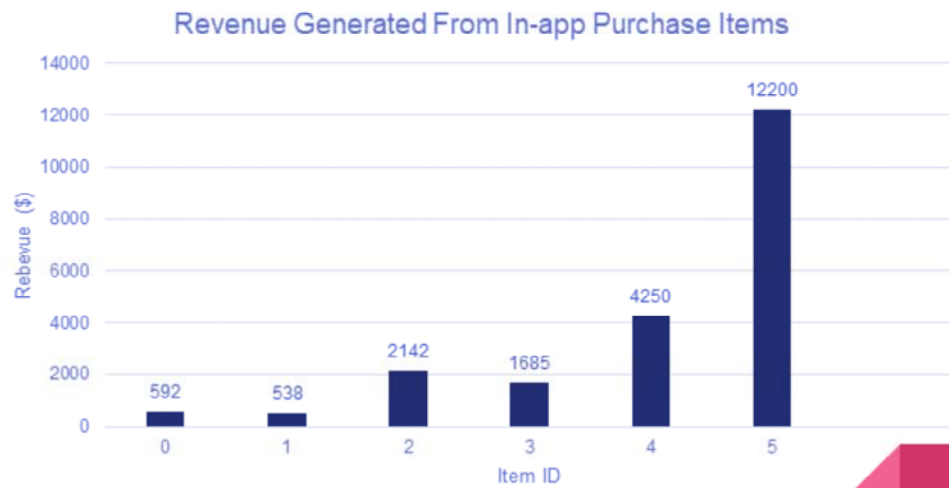
## **Operation data of game activity**

- This data could help us to find out what are the most purchased in-app items, who did the purchase and when did the purchases happen.
- Beside in-game transactions, this data also contains advertisement banner clicks, which are also part of the company revenue generators.
- Understanding this data could help us to evaluate and design our game scheme, promotion and price strategy.

## **Chat data of game players**

- By analyzing this data, we could find out the most influential players, what are the hottest topics among the players and etc.
- We can then define more efficient marketing campaign strategies based on the insights we harnessed from this data

# Data Exploration Overview



In-app purchase item ID 5 generated 57% of total revenue, more all other items combined.

- Total revenue chart shows that item ID5, the most expensive single item in our in-game store, has generated more revenue than all other items combined.
- This suggests that marketing strategy could be defined to promote sales of item ID 5.

# What have we learned from classification?



## HighRoller vs. a PennyPincher

- Platform type can be used to predict the likelihood of a player being a high-roller or penny-pincher
- Most players play the game on mobile platforms
- On mobile platform, iphone players are more likely to be HighRoller (83%), while android players tend to be PennyPinchers (86.5%)
- Most of the PC players are PennyPinchers, but part of Mac users are HighRollers (37%).

## Suggestions to increase revenue

- Promoting game among iOS and Mac users

## What have we learned from clustering?

Cluster #	Cluster Center ['totalAdClicks', 'totalBuyClicks', 'totalRevenue']
1	[41.07, 10.29, 145.51]
2	[34.28, 6.45, 67.22]
3	[26.30, 4.48, 17.07]

- totalAdClicks: Total number of ad-clicks per user
- totalBuyClicks: Total number of in-app purchase per user
- totalRevenue: Total money spent on in-app purchase items per user

- K-means Cluster analysis based on these 3 attributes resulted in 3 clusters,
- Players Cluster 1 have the highest 'totalAdClicks', 'totalBuyClicks' and 'totalRevenue'.
  - They are frequent ad-clickers.
  - Increase the prices for advertisements targeting these players could potentially increase the company's revenue.
- Players in Cluster 2 only purchase about 1.4 times more in-app items than players in Cluster 3, but the total amount of purchase is about 4 times more than players in Cluster 3.
  - This is perhaps due to players in Clusters 3 only purchase items with lower price.
  - Lowering the price of the in-app purchase items or giving discount to players in Cluster 3 could encourage them to spend more on more expensive items.

## Graph analysis findings on chat data

- We used Neo4j graph database to perform analysis on chat data of players
- Found the longest conversation chain and its participants
- Analyzed the relationship between top 10 chattiest users and top 10 chattiest teams.
- Found the top 3 most active users based on clustering coefficient



- Longest conversation chain and its participants
  - We could use this information to determine what kind of topics players are currently interested about
  - Set business strategies targeting on those topics
- Relationship between top 10 chattiest users and top 10 chattiest teams
  - It seems that there is no strong relationship between chattiest users and chattiest teams
  - This suggests that we may need different business plans targeting individual and teams separately
- Top 3 most active users based on clustering coefficient
  - Promotions/incentive targeting these players should be more effective than targeting ordinary players
  - These players are more likely to help spread the word about game

## Recommendation

- Focusing on selling and developing in-app purchase items like ID 5
- Promoting the game to attract more iOS and Mac users
- Devising marketing strategies to target specific group of players obtained from the results of clustering and graph analysis



- Focusing on selling and developing in-app purchase items like ID 5
  - Item ID 5 is the most profitable item
- Promoting the game to attract more iOS and Mac users
  - Players on these two platform are more likely to be HighRoller who are willing to spend more
- Devising marketing strategies to target specific group of players obtained from the results of clustering and graph analysis
  - For instance, pushing promotion to the chattiest players could easily attract the community's attention

End of Presentation

