

Heros_of_Pymoli

Aswathy Mohan

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1 Heros Of Pymoli

After a lot of hard work in the data munging mines, you've landed a job as Lead Analyst for an independent gaming company. The assigned task is to analyze the data for their most recent fantasy game Heroes of Pymoli.

Like many others in its genre, the game is free-to-play, but players are encouraged to purchase optional items that enhance their playing experience. As a first task, the company would like you to generate a report that breaks down the game's purchasing data into meaningful insights.

As the first step, the needed packages are imported. Since data file is json, we need to import json package .

```
In [54]: import pandas as pd
import os
import json
```

The data is provided in two JSON files. purchase_data.json and purchas_data2.json. Read the files using read_csv function from pandas. Let's define a user defined function to do it. The function reading_file takes filePath, variable which is a string as argument and returns a DataFrame object , which contains the data from .json file. Combine both files using concat().

```
In [115]: purchase_Data_Reader1=reading_File(os.path.join("raw_data","purchase_data2.json"))
purchase_Data_Reader2=reading_File(os.path.join("raw_data","purchase_data.json"))
purchase_Data_Reader=pd.concat([purchase_Data_Reader1,purchase_Data_Reader2])
purchase_Data_Reader.head()
```

```
Out[115]:
```

| | Age | Gender | Item ID | Item Name | Price | SN |
|---|-----|--------|---------|--------------------------|-------|------------|
| 0 | 20 | Male | 93 | Apocalyptic Battlescythe | 4.49 | Iloni35 |
| 1 | 21 | Male | 12 | Dawne | 3.36 | Aidaira26 |
| 2 | 17 | Male | 5 | Putrid Fan | 2.63 | Irim47 |
| 3 | 17 | Male | 123 | Twilight's Carver | 2.55 | Irith83 |
| 4 | 22 | Male | 154 | Feral Katana | 4.11 | Philodil43 |

1.1 Total Players

```
In [117]: total_players=players_count()
total_players
```

```
Out[117]:
```

| Total Players |
|---------------|
| 858 |

1.2 Purchase Analysis Total

```
In [119]: total_analysis_df=total_analysis()
          total_analysis_df
```

```
Out[119]:
```

| | No.of Unique Items | Average Price | No.of Purchases | Total Revenue |
|---|--------------------|---------------|-----------------|---------------|
| 0 | 93 | 27.036882 | 858 | 2514.43 |

1.3 Gender Demographics

```
In [121]: total_Gender=gender_total()
          total_Gender.head()
```

```
Out[121]:
```

| | Gender | Percentage Players | Total Count |
|---|-----------------------|--------------------|-------------|
| 0 | Male | 81.24 | 697 |
| 1 | Female | 17.37 | 149 |
| 2 | Other / Non-Disclosed | 1.40 | 12 |

1.4 P

urchasing Analysis (Gender)

```
In [137]: gender_Analyis=gender_Analysis()
          gender_Analyis
```

```
Out[137]:
```

| | Gender | Purchase Count | Average Purchase Price \ |
|---|-----------------------|----------------|--------------------------|
| 0 | Male | 697 | 2.944448 |
| 1 | Female | 149 | 2.847584 |
| 2 | Other / Non-Disclosed | 12 | 3.155000 |

| | Total Purchase Value | Normalized Totals |
|---|----------------------|-------------------|
| 0 | 2052.28 | 2.391935 |
| 1 | 424.29 | 0.494510 |
| 2 | 37.86 | 0.044126 |

1.5 Age Demographics

```
In [139]: age_df=age_group("Age Group")
          age_df=age_df.dropna(how="any")
          age_df
```

```
C:\Users\Aswathy Vineeth\Anaconda3\lib\site-packages\ipykernel_launcher.py:10: RuntimeWarning:
  # Remove the CWD from sys.path while we load stuff.
```

```
Out[139]:
```

| | Age Group Range | Purchase Count | Average PRICE | Total Price \ |
|---|-----------------|----------------|---------------|---------------|
| 0 | 20-25 | 372 | 2.923817 | 1087.66 |
| 1 | 15-19 | 144 | 2.894653 | 416.83 |
| 2 | <10 | 37 | 2.984865 | 110.44 |
| 3 | 40-44 | 17 | 3.275294 | 55.68 |

| | | | | |
|---|-------|-----|----------|--------|
| 4 | 25-29 | 134 | 2.958507 | 396.44 |
| 5 | 35-39 | 48 | 2.932708 | 140.77 |
| 6 | 30-34 | 71 | 2.973803 | 211.14 |
| 7 | 10-14 | 34 | 2.727941 | 92.75 |

| | Normalized Total |
|---|------------------|
| 0 | 1.267669 |
| 1 | 0.485816 |
| 2 | 0.128718 |
| 3 | 0.064895 |
| 4 | 0.462051 |
| 5 | 0.164068 |
| 6 | 0.246084 |
| 7 | 0.108100 |

1.6 Top Spenders

```
In [128]: new_data=analysis_final(purchase_Data_Reader,"SN","Price")
new_data
```

```
Out[128]:
```

| | SN | Purchase Count | Avg Purchase Price | Total Purchase |
|---|---------------|----------------|--------------------|----------------|
| 0 | Undirralla66 | 5 | 3.41 | 17.06 |
| 1 | Aerithllora36 | 4 | 3.78 | 15.10 |
| 2 | Saedue76 | 4 | 3.39 | 13.56 |
| 3 | Sondim43 | 4 | 3.26 | 13.02 |
| 4 | Mindimnya67 | 4 | 3.18 | 12.74 |

1.7 Popular and Profitable Items

1.7.1 Most Popular Items

```
In [130]: purchase_df=purchase_count()
# create the df by calling function and sort based on Purchase count
purchase_df=purchase_df.sort_values("Purchase Count",ascending=False)
purchase_df.head()
```

```
Out[130]:
```

| | Item ID | Purchase Count | Item Name \ |
|-----|---------|----------------|---|
| 44 | 84 | 12 | Arcane Gem |
| 104 | 39 | 11 | Betrayal, Whisper of Grieving Widows |
| 53 | 31 | 10 | Trickster |
| 14 | 44 | 9 | Bonecarvin Battle Axe |
| 33 | 108 | 9 | Extraction, Quickblade Of Trembling Hands |

| | Price | Total Purchase Value |
|-----|-------|----------------------|
| 44 | 4.81 | 29.34 |
| 104 | 2.35 | 25.85 |
| 53 | 4.59 | 23.22 |
| 14 | 4.36 | 24.04 |
| 33 | 2.26 | 28.25 |

1.7.2 Most Profitable Items

```
In [131]: total_purchase=purchase_count()
          # create the df by calling function and sort based on Total Purchase Value
          total_purchase=total_purchase.sort_values("Total Purchase Value",ascending=False)
          total_purchase.head()
```

```
Out[131]:
```

| | Item ID | Purchase Count | Item Name | Price \ |
|-----|---------|----------------|----------------------------|---------|
| 102 | 34 | 9 | Retribution Axe | 4.14 |
| 49 | 107 | 9 | Splitter, Foe Of Subtlety | 4.15 |
| 124 | 115 | 7 | Spectral Diamond Doomblade | 4.25 |
| 98 | 32 | 6 | Orenmir | 4.95 |
| 44 | 84 | 12 | Arcane Gem | 4.81 |

| | Total Purchase Value |
|-----|----------------------|
| 102 | 37.26 |
| 49 | 33.03 |
| 124 | 29.75 |
| 98 | 29.70 |
| 44 | 29.34 |

2 Trend Analysis

- Total players is 858 with 3 type of gender
- There is 93 Unique items and total revenue is \$ 2514
- From Purchase Analysis by Gender, the count of Male Players are very high . But from the average Purchase Price it can be seen that, other players have purchased more than male players
- Age Group 20-25 have made the highest purchases , but average purchase price is highest for 40-44 group
- Undirralla66 is the top spender
- Retribution Axe is the most purchased item and Arcane Gem is the popular item