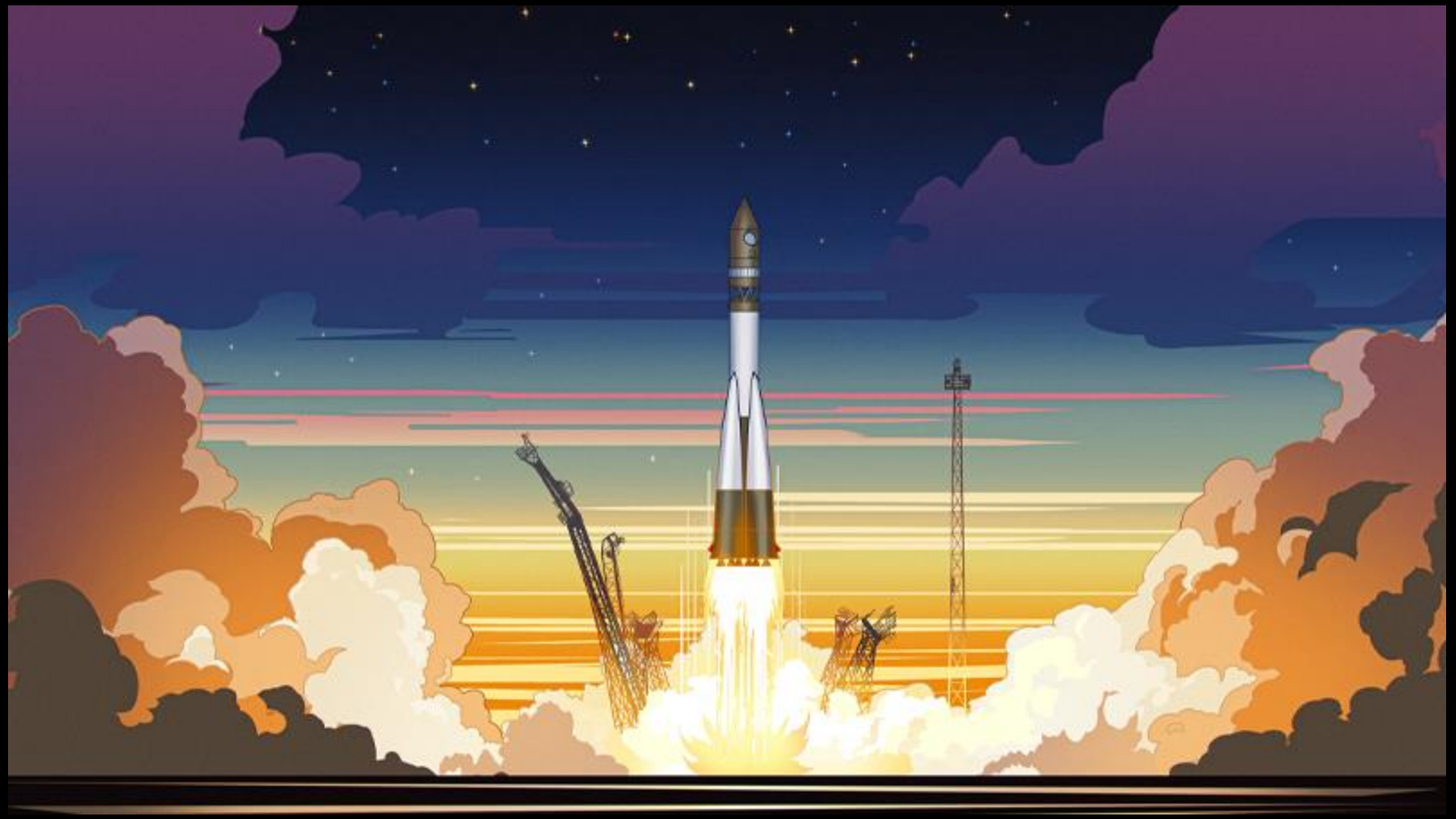


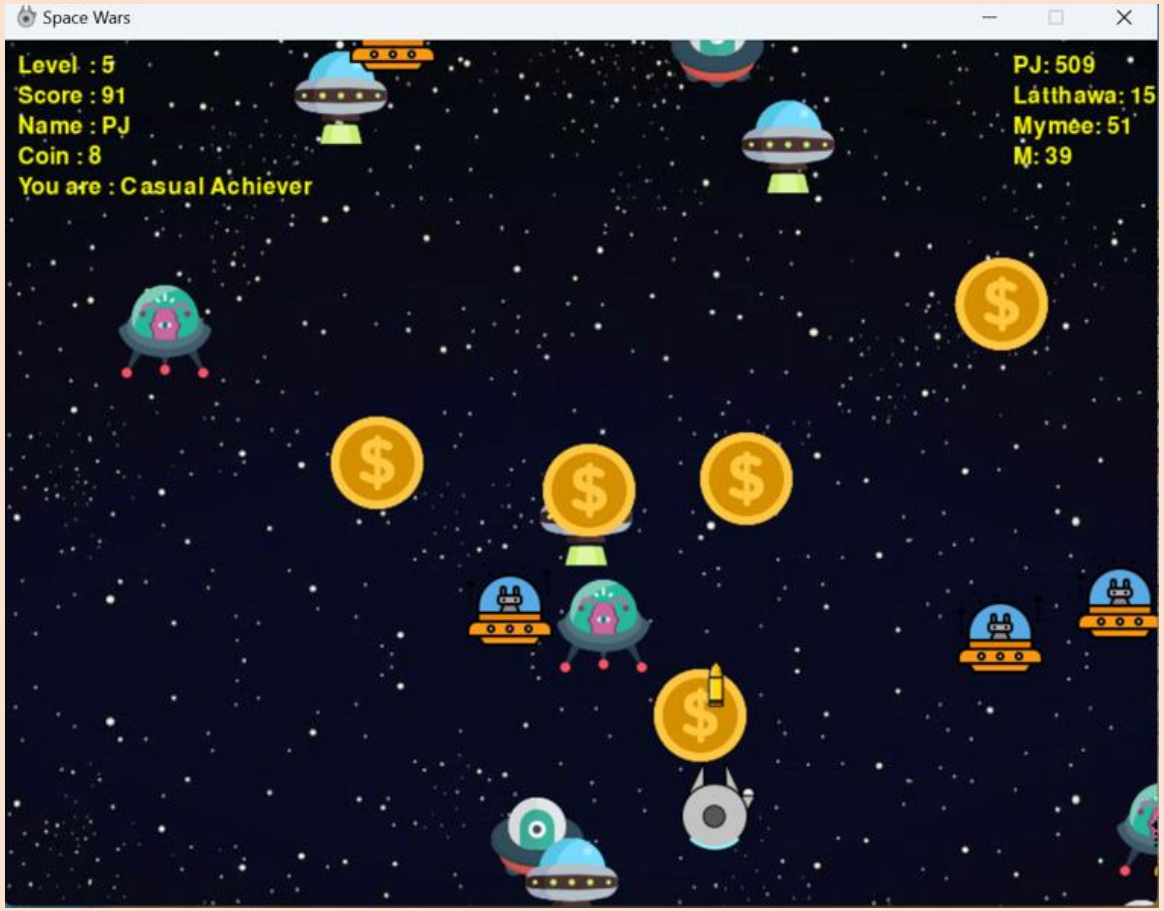
Space Wars by River War

DADS6005 DATA STREAMING AND REAL TIME ANALYTICS.

Team Members

LATTHAWAN CHANTHARASUKHA	6420422015
KHANISTHA PAANTHANG	6420422019
PATTANAWONG CHOKRATANASOMBAT	6420422023
PUWADON SRITUM	6420422026
PAJAYA KANJANAKAEW	6420422028

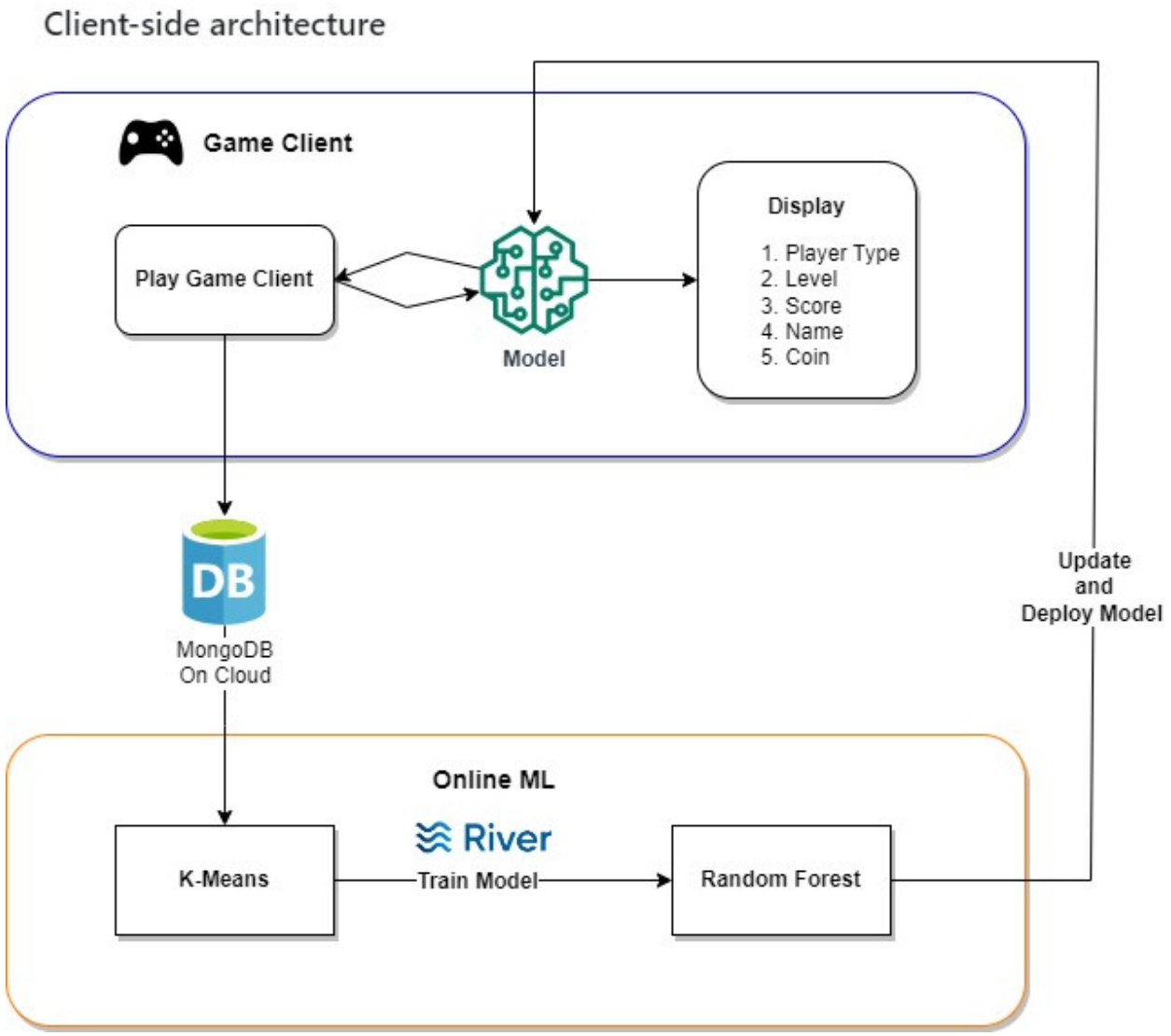
Playing Screen



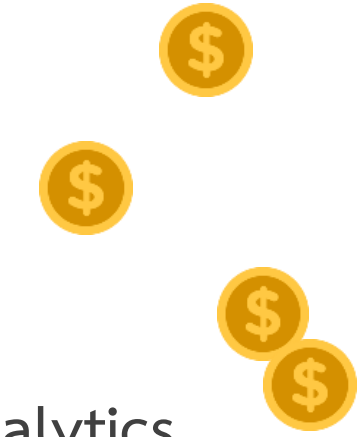
The data collected every 1 second

- **A0)** Position in X axis => position X [1, 2, 3, 2, 1] / 5
- **A1)** Position in Y axis => position Y [200, 150, 130, 170] / 4
- **A2)** Number of coins collected => Total
- **A3)** Number of destroyed enemies => Total
- **A4)** Number of shots => Total
- **A5)** Number of shots without enemies => Total (A4 - A3)
- **A6)** Level reach => Latest
- **A7)** key X pressed count => Total
- **A8)** key Y pressed count => Total
- **A9)** Number of enemy created => Total
- **A10)** Number of coin created => Total

Summary of working steps



Objectives



1. Integrate online ML for game user analytics.

2. Discuss the benefits of integrating online ML into the existing app.

1. Integrate online ML for game user analytics.

Game integrated with Offline ML and Online ML differ in the following aspects:

1. Learning and Data Processing: 

- **Offline ML:** Learning and data processing in Offline ML occur on the player's device or game console without requiring an internet connection. The models and algorithms used are created and predetermined before playing the game.

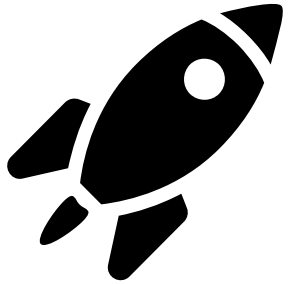
- **Online ML:** Learning and data processing in Online ML happen on servers or online systems connected to players via the internet. The models and algorithms can be updated and changed during gameplay based on real-time data.

1. Integrate online ML for game user analytics.

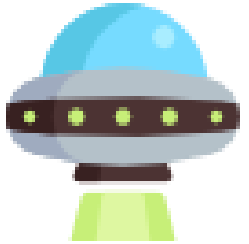
Game integrated with Offline ML and Online ML differ in the following aspects:

2. Customization and Updates:

- **Offline ML :** In Offline ML, model customization and updates need to be done before playing the game since the models and algorithms are created in advance and cannot be changed during gameplay.



- **Online ML :** In Online ML, models and algorithms can be updated and adjusted during gameplay. The game system can be improved and customized based on player actions and new data that arise in real-time.



1. Integrate online ML for game user analytics.

Game integrated with Offline ML and Online ML differ in the following aspects:

3. Responsiveness and Efficiency:

- **Offline ML:** Offline ML may have high performance when provided with data and expected responses according to predefined conditions. However, it may not be able to adapt to new conditions that arise in real-time.

- **Online ML:** Online ML has the ability to customize and improve the system to adapt to changing conditions. It enables fast and accurate responsiveness to real-time events in gameplay.

1. Integrate online ML for game user analytics.

Game integrated with Offline ML and Online ML differ in the following aspects:

Using Online ML in games allows developers to improve and customize game systems based on trends and player behavior in real-time. It also helps in quickly detecting and identifying problems or abnormalities that occur in the game, creating a more challenging and engaging gaming experience for players.

2. Discuss the benefits of integrating online ML into the existing app.

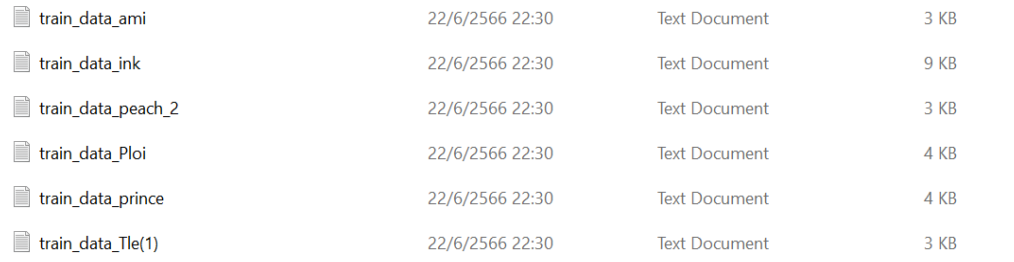
Show scenarios where offline ML fails but online ML succeeds :

- **System Improvement:** Online ML allows the learning system to continuously improve itself by using the latest data from game users. For example, it can adjust decision-making or parameter values related to learning. By doing so, it helps enhance the efficiency of the learning system over time.

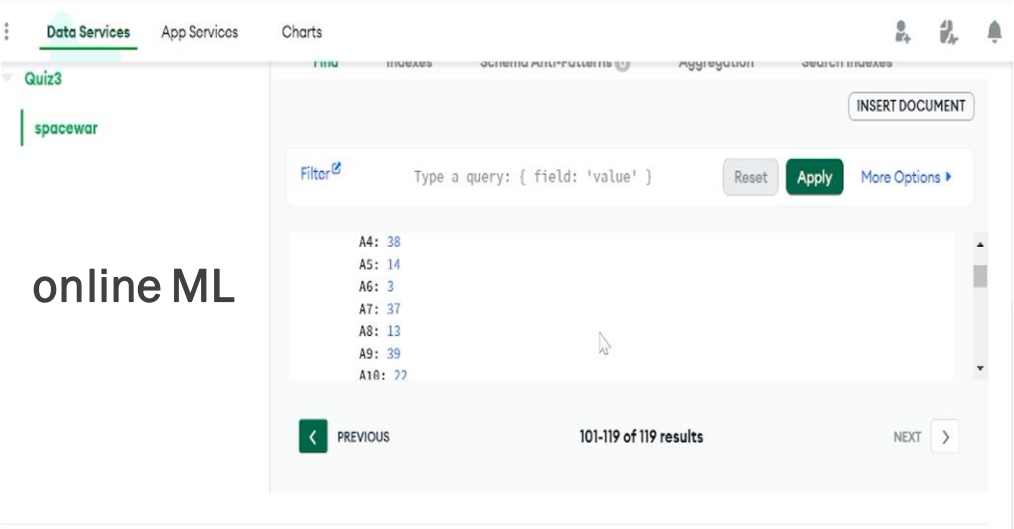
- **Real-time Learning:** Online ML enables the system to learn and adapt based on real-time accessible data. This may help the system respond to events or trends occurring at that moment quickly and accurately.

- **Error Management:** Incorporating online machine learning helps manage errors or failures that occur in real-time. The system can assess and improve itself to reduce errors in the future.

offline ML



online ML



2. Discuss the benefits of integrating online ML into the existing app.

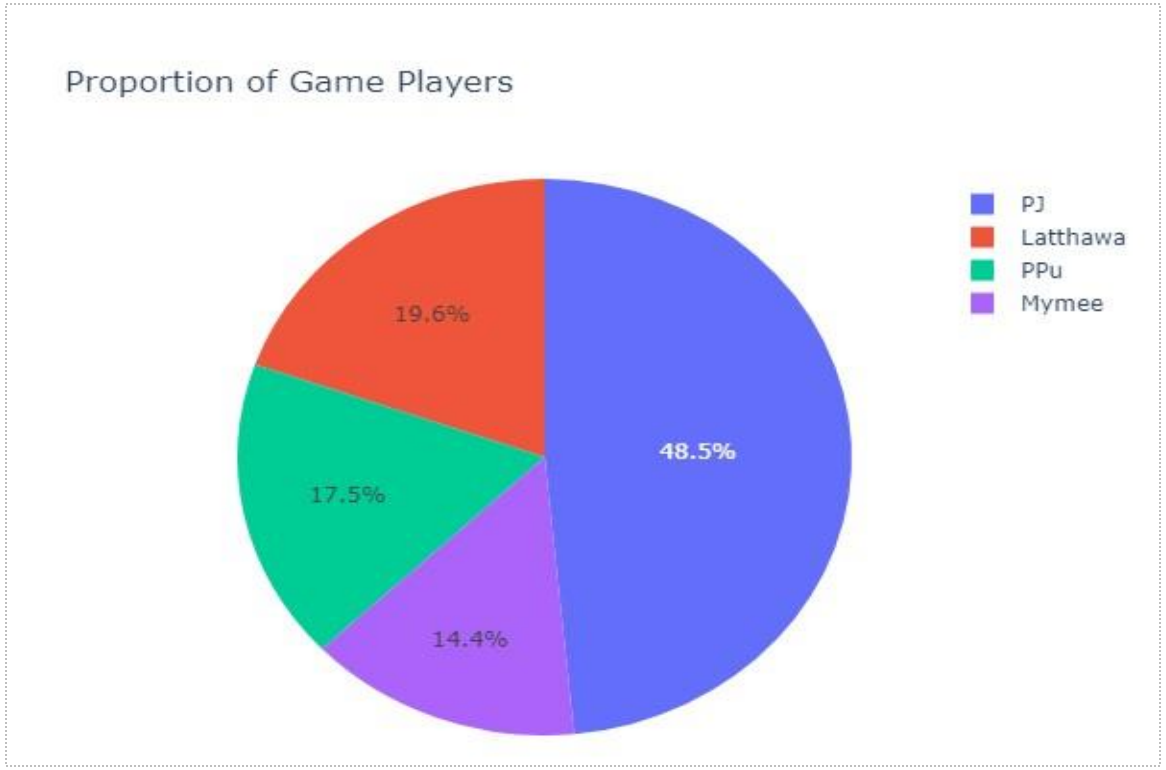
Show video recorded for the presentation :

URL : https://youtu.be/jDhdBA5KcSQ

2. Discuss the benefits of integrating online ML into the existing app.

Show another idea for analytics :

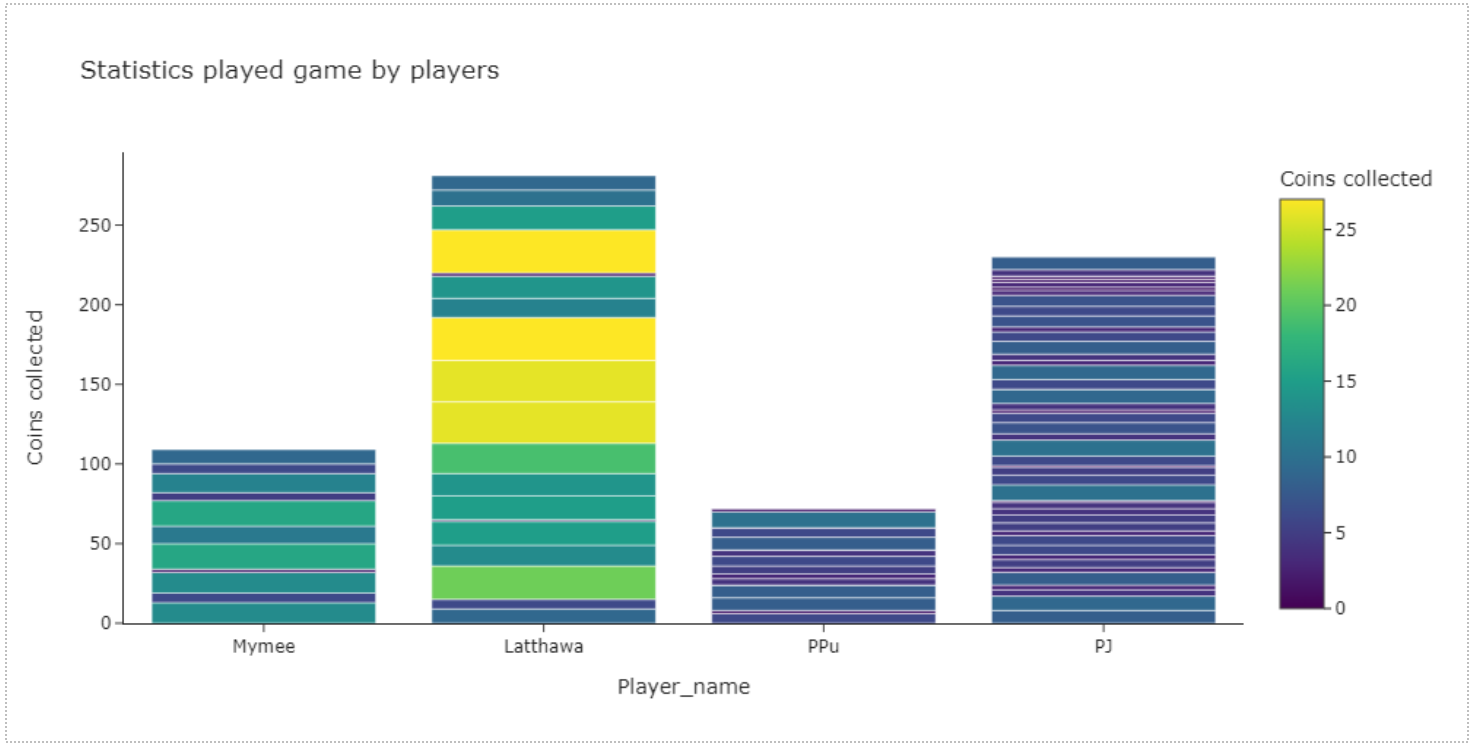
- Analyze whether the proportion of players



2. Discuss the benefits of integrating online ML into the existing app.

Show another idea for analytics :

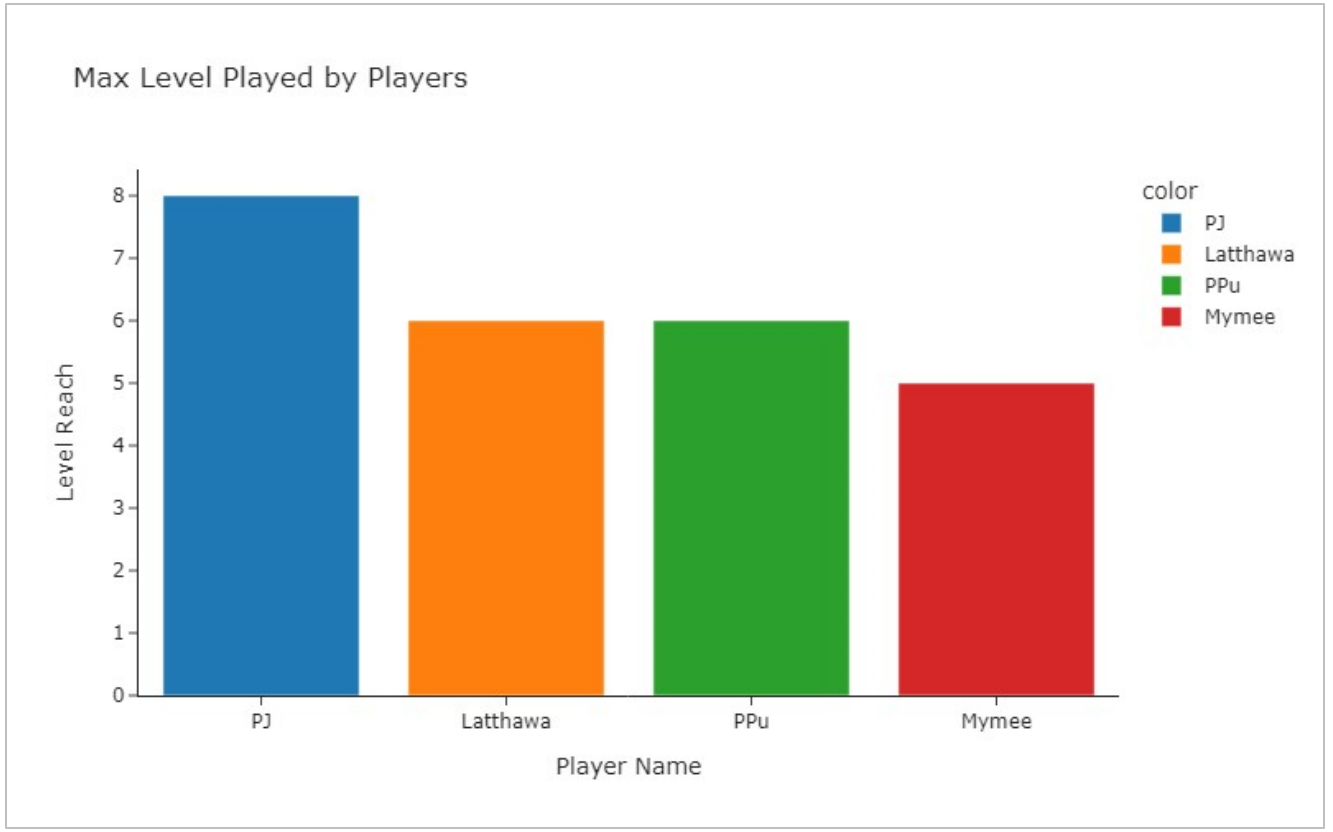
- Analyze how many coins each player collects.



2. Discuss the benefits of integrating online ML into the existing app.

<u>Show another idea for analytics :</u>

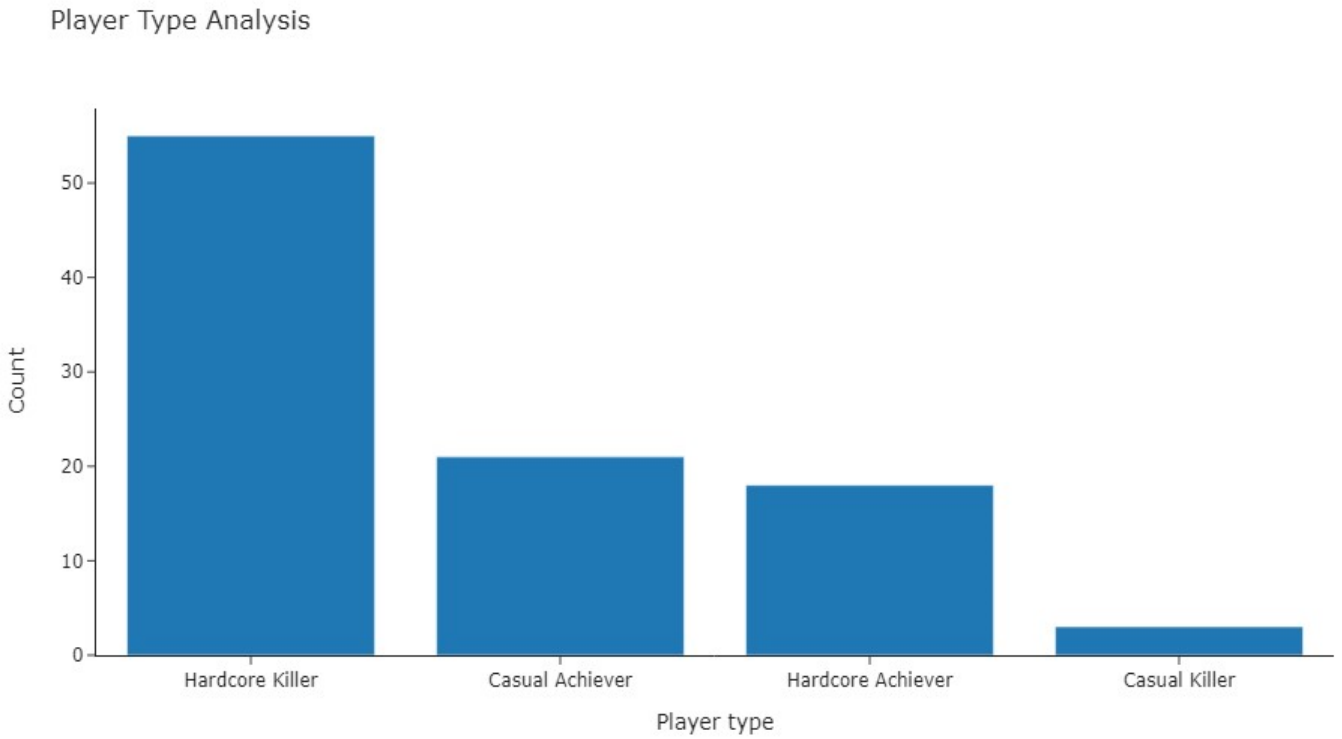
- Analyze the highest level of the player.



2. Discuss the benefits of integrating online ML into the existing app.

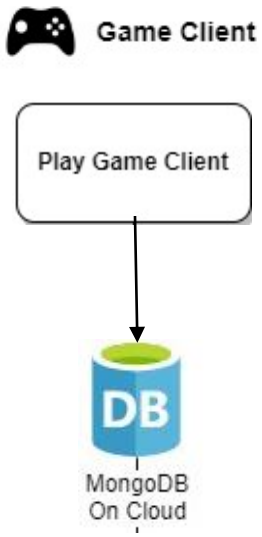
Show another idea for analytics :

- Analyze the types of players



Append

- Connect MongoDB
- Save data to MongDB on Cloud

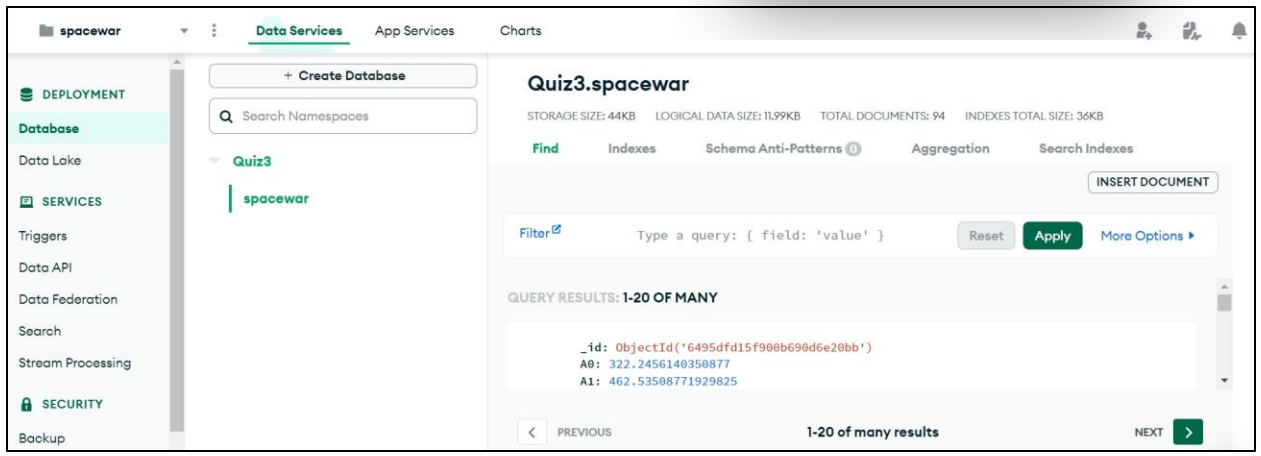


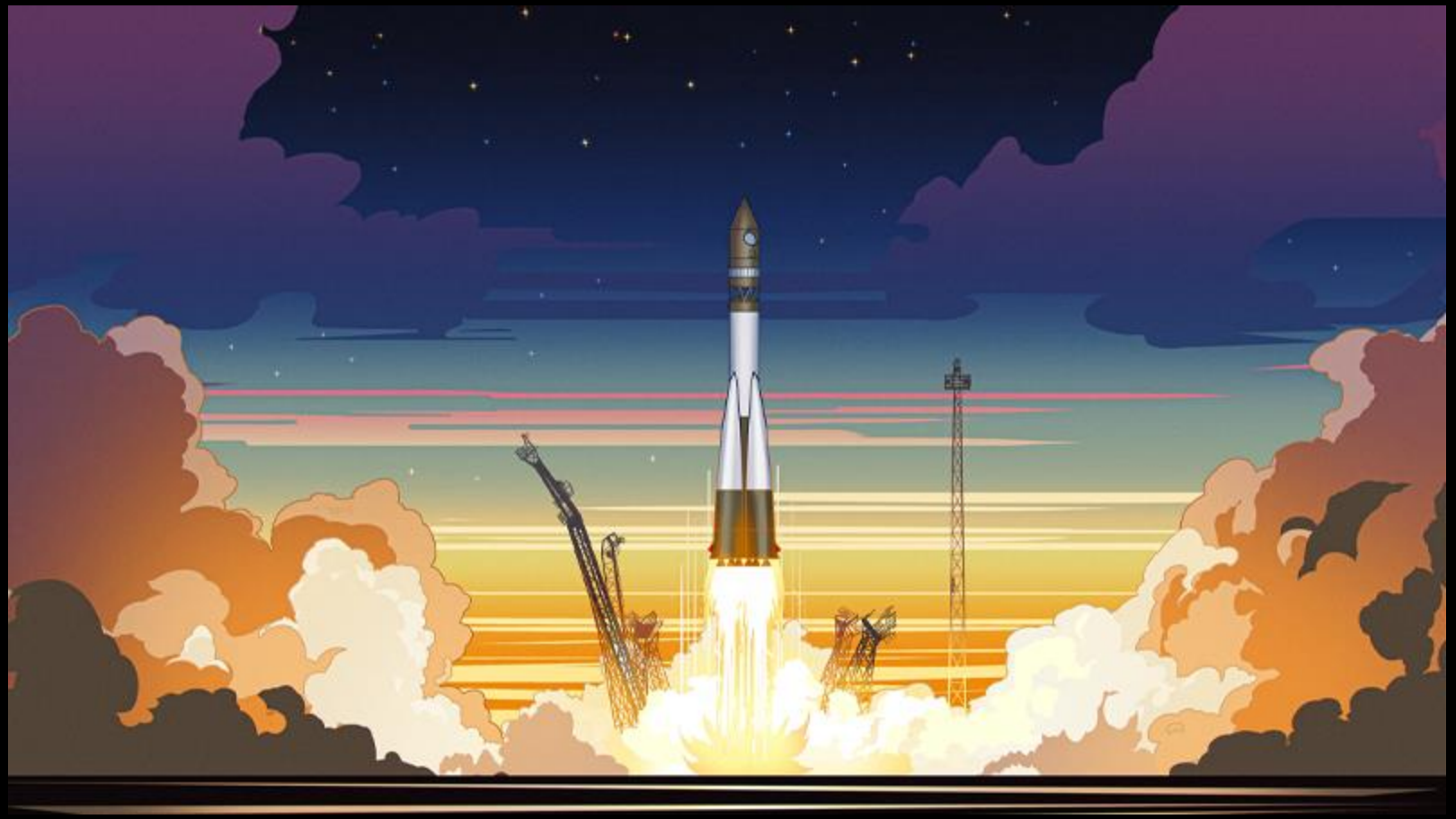

```python
import pymongo
import statistics

# Connect MongoDB
client = pymongo.MongoClient("mongodb+srv://paanthkt:bze44Wn5OfLNC7pY@cluster0.kmel07d.mongodb.net/")

db = client.Quiz3
collection = db.spacewar
```

```python
data = {
        'A0': A0,
        'A1': A1,
        'A2': A2,
        'A3': A3,
        'A4': A4,
        'A5': A5,
        'A6': A6,
        'A7': A7,
        'A8': A8,
        'A9': A9,
        'A10': A10,
        'A11': A11
}
#Save data to mongoDB
if sum([A0, A1, A2, A3, A4, A5]) != 0:
    collection.insert_one(data)
}
```





Thank You

DADS6005 DATA STREAMING AND REAL TIME ANALYTICS.