Data Analytics 2022

UNDERSTANDING TWITCH VIEWERSHIP:
ANALYZING PEAK VIEWERS AND CHANNELS

Introduction

❑ Are you curious how big Twitch is and if it's growing?

❑ Why this project you may ask? G**reat question!**

❑ I don't see many projects like this so it's fun to be different

❑ I wanted to put together a project on a topic that I enjoy

❑ The gaming industry is expected to **grow to 281.77 billion in 2023.**

❑ For the DAA capstone I feel this project will showcase my skills

Cleaning The Data

- Always a fun and important step is cleaning the data

- When I tried to import to Microsoft SQL server I was getting 2 errors

- Rows over 50 words and special characters present

- I used excel to clean up the data before importing to SQL

- Used Replace with function to remove the special characters

- Used RIGHT($cell$, LEN($cell$) - 100) for cells with too many words

Original dataset can be found here:

https://www.kaggle.com/datasets/rankirsh/evolution-of-top-games-on-twitch

Key Questions

❑ What was the highest viewer hours in a single day?

❑ What are the most popular games to watch?

❑ What games are streamed the most?

❑ How much has the viewership grown in the last 7 years?

❑ In 2022 what was their best month?

❑ Which games grew the most from 2021 to 2022?

The Data

```sql
SELECT
    MAX(Peak_viewers) AS General_Peak_Viewers,
    MAX(Peak_channels) AS General_Peak_Channels,
    MAX(Avg_viewer_ratio) AS Top_Viewer_Ratio
FROM twitch_data
WHERE Year = 2022;
```

General_Peak_Viewers	General_Peak_Channels	Top_Viewer_Ratio
1	9997	999	99.71

We are using Microsoft SQL server and Tableau to have a closer look at the data.

I imagine the questions would potentially be asked by the marketing team. I will keep that in mind as I look through the data.

In one single day the most viewers was almost 10k.
There was 1k channels which is an avg of 100 viewers per channel.

Most Popular Games Watched 2022

```sql
SELECT TOP 5
    Game,
    MAX(Hours_watched) AS Max_Hours_Watched
FROM twitch_data
WHERE Year = 2022
GROUP BY Game
ORDER BY Max_Hours_Watched DESC;
```

	Game	Max_Hours_Watched
1	War Thunder	999350
2	The Wandering Village	999255
3	Age of Empires IV	999054
4	Tom Clancy's Rainbow Six Siege	9981861
5	PUBG Mobile	997441

Most of the top games where very close in hours watched. Rainbow Six Siege was way ahead of the rest by almost 10 million

Age of empires 4 was released in 2021 I am surprised it's not higher in the count. Rainbow Six Siege was released back in 2015 its part of the FPS genre.

Most Popular Games Watched 2022

Top 5 Watched Games on Twitch 2022

Tom Clancy's Rainbow Six Siege
9.98M

War Thunder
1.00M

The Wandering Village
1.00M

Age of Empires IV
1.00M

PUBG Mobile
1.00M

CLICK HERE FOR TABLEAU PUBLIC

Most Popular Games Streamed 2022

```sql
SELECT TOP 5
    Game,
    MAX(Hours_streamed) AS Max_Streamed
FROM twitch_data
WHERE Year = 2022
GROUP BY Game
ORDER BY Max_Streamed DESC;
```

	Game	Max_Streamed
1	The Cycle: Frontier	99923
2	League of Legends: Wild Rift	99818
3	Marvel's Spider-Man Remastered	99797
4	Halo Infinite	99781
5	Cyberpunk 2077	99710

This list took me by surprise because all 5 of the games are different for most streamed hours.
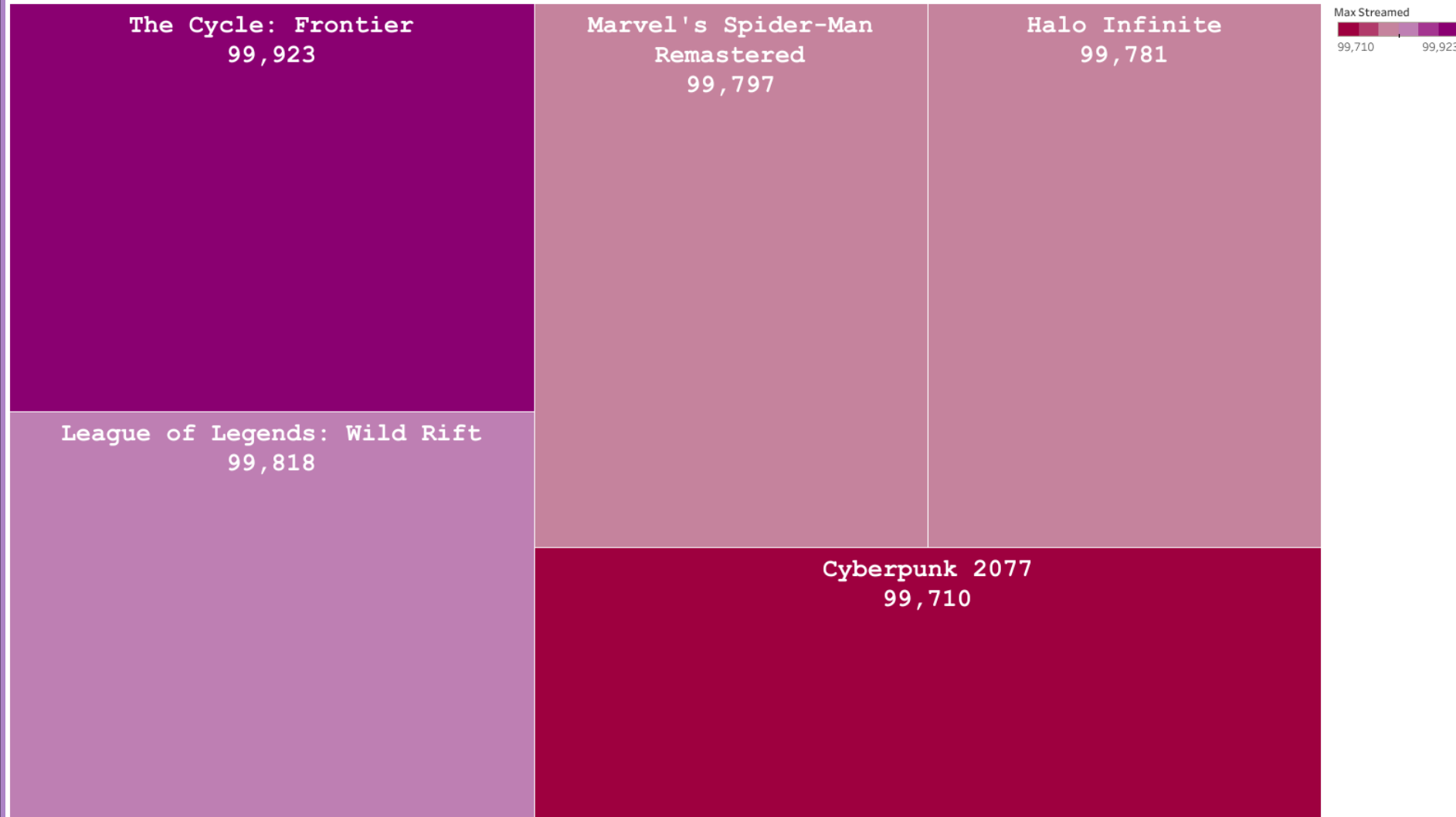
All these games were released in 2020 or 2021. I also noticed **all 5 of these games are from a different genre.**

- The Cycle – Extraction shooter
- Spider-Man - Action-Adventure
- League of Legends - MOBA
- Halo Infinite - FPS
- Cyberpunk 2077 - RPG

Most Popular Games Streamed 2022

Top 5 STREAMED Games on Twitch 2022

Max Streamed
99,710   99,923

The Cycle: Frontier
99,923

League of Legends: Wild Rift
99,818

Marvel's Spider-Man Remastered
99,797

Halo Infinite
99,781

Cyberpunk 2077
99,710

The last 7 years

```sql
SELECT
    Year,
    SUM(CAST(Hours_watched as FLOAT)) AS Total_Hours_Watched
FROM twitch_data
WHERE Year BETWEEN 2016 AND 2022
GROUP BY Year
ORDER BY Year;
```
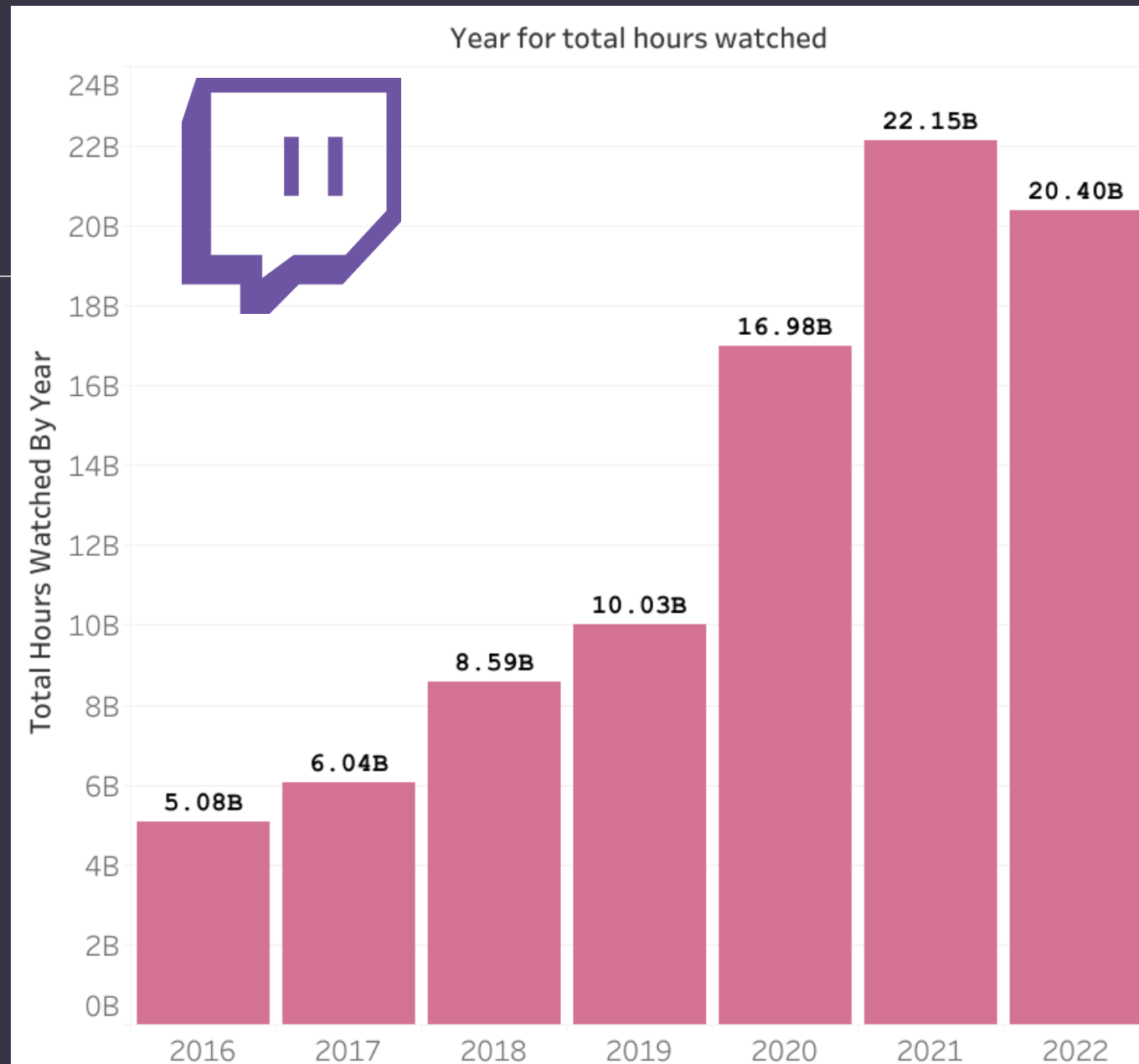
	Year	Total_Hours_Watched
1	2016	5082766384
2	2017	6044740005
3	2018	8588082625
4	2019	10029602019
5	2020	16976473071
6	2021	22145586100
7	2022	20397399743

Overall looks like steady growth, 2021 being the best year. 2022 has a bit of a dip but not super far down.

The last 7 years

Here is a look at all the years visually. Amazon acquired Twitch for almost $1 billion in 2014. I would say that was a good purchase.

The gaming industry continues to grow and Twitch is known as the *most popular* livestreaming platform.

Year for total hours watched

- 2016: 5.08B
- 2017: 6.04B
- 2018: 8.59B
- 2019: 10.03B
- 2020: 16.98B
- 2021: 22.15B
- 2022: 20.40B

Best Month 2022

January was the best month for hours watched and December was the worst.
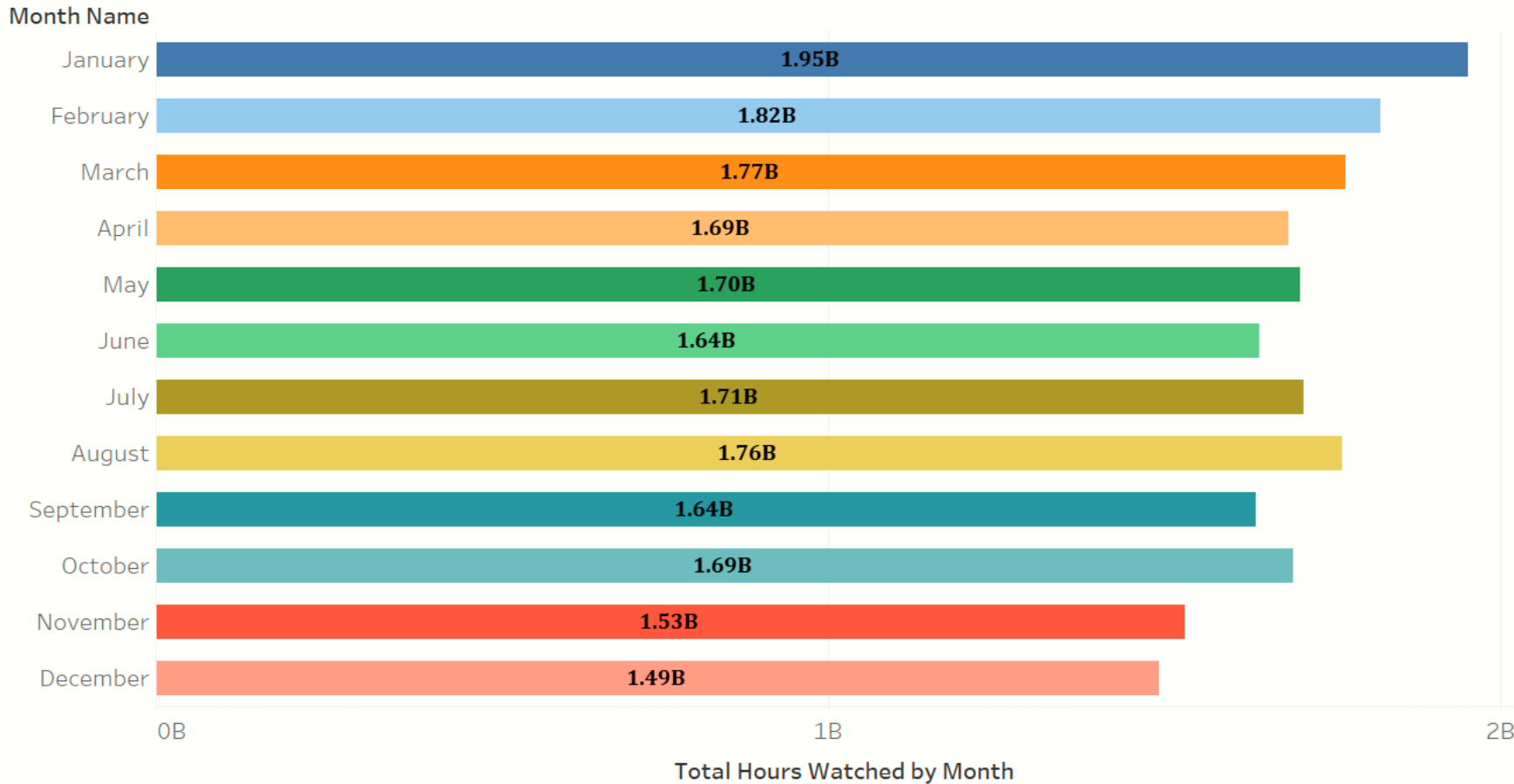
```sql
SELECT -- Used Case When to convert column to named month
    CASE Month
        WHEN 1 THEN 'January'
        WHEN 2 THEN 'February'
        WHEN 3 THEN 'March'
        WHEN 4 THEN 'April'
        WHEN 5 THEN 'May'
        WHEN 6 THEN 'June'
        WHEN 7 THEN 'July'
        WHEN 8 THEN 'August'
        WHEN 9 THEN 'September'
        WHEN 10 THEN 'October'
        WHEN 11 THEN 'November'
        WHEN 12 THEN 'December'
    END as Month_Name,
    SUM(CAST(Hours_watched as FLOAT)) AS Total_Hours_Watched
FROM twitch_data
WHERE Year = 2022
GROUP BY Month -- Used dummy variable to help date order correctly.
ORDER BY DATEFROMPARTS(2022, Month, 1);
```

	Month_Name	Total_Hours_Watched
1	January	1951481876
2	February	1821236353
3	March	1770064267
4	April	1685523568
5	May	1702382419
6	June	1642139197
7	July	1707459818
8	August	1764945714
9	September	1635888715
10	October	1692492764
11	November	1531254966
12	December	1492530086

Best Month 2022

Total Hours Viewed On Twitch By Month 2022

Month Name

Month	Total Hours Watched
January	1.95B
February	1.82B
March	1.77B
April	1.69B
May	1.70B
June	1.64B
July	1.71B
August	1.76B
September	1.64B
October	1.69B
November	1.53B
December	1.49B

0B   1B   2B

Total Hours Watched by Month

When you consider YouTubes avg watch hours per month is 3.5B. The numbers Twitch is putting up are very impressive.

However we should be giving most of the credit to the *content creators* on Twitch.

Games That Grew The Most 2021 -2022

	Game	Max_Hours_Watched_2021	Max_Hours_Watched_2022	Hours_Watched_Difference
1	Elden Ring	3040515	131599152	128558637
2	LOST ARK	19270349	145982931	126712582
3	VALORANT	100244546	127153372	26908826
4	Dying Light 2: Stay Human	845106	25745762	24900656
5	World of Warcraft	52816476	75048722	22232246

```
-- Making a CTE with two tables in order to see the improvemnet over time.
WITH MaxHoursWatched_2021 AS (
    SELECT
        Game,
        MAX(CAST(Hours_watched AS FLOAT)) AS Max_Hours_Watched_2021
    FROM twitch_data
    WHERE Year = 2021
    GROUP BY Game
),
MaxHoursWatched_2022 AS (
    SELECT
        Game,
        MAX(CAST(Hours_watched AS FLOAT)) AS Max_Hours_Watched_2022
    FROM twitch_data
    WHERE Year = 2022
    GROUP BY Game
)
SELECT TOP 5 --Using a Join and sumtraction to get a column with the improvement.
    T21.Game,
    T21.Max_Hours_Watched_2021,
    T22.Max_Hours_Watched_2022,
    T22.Max_Hours_Watched_2022 - T21.Max_Hours_Watched_2021 AS Hours_Watched_Difference
FROM MaxHoursWatched_2021 T21
INNER JOIN MaxHoursWatched_2022 T22 ON T21.Game = T22.Game
ORDER BY Hours_Watched_Difference DESC;
```

Lost Ark and Elden Ring has the biggest jump in hours watched from 2021 to 2022.
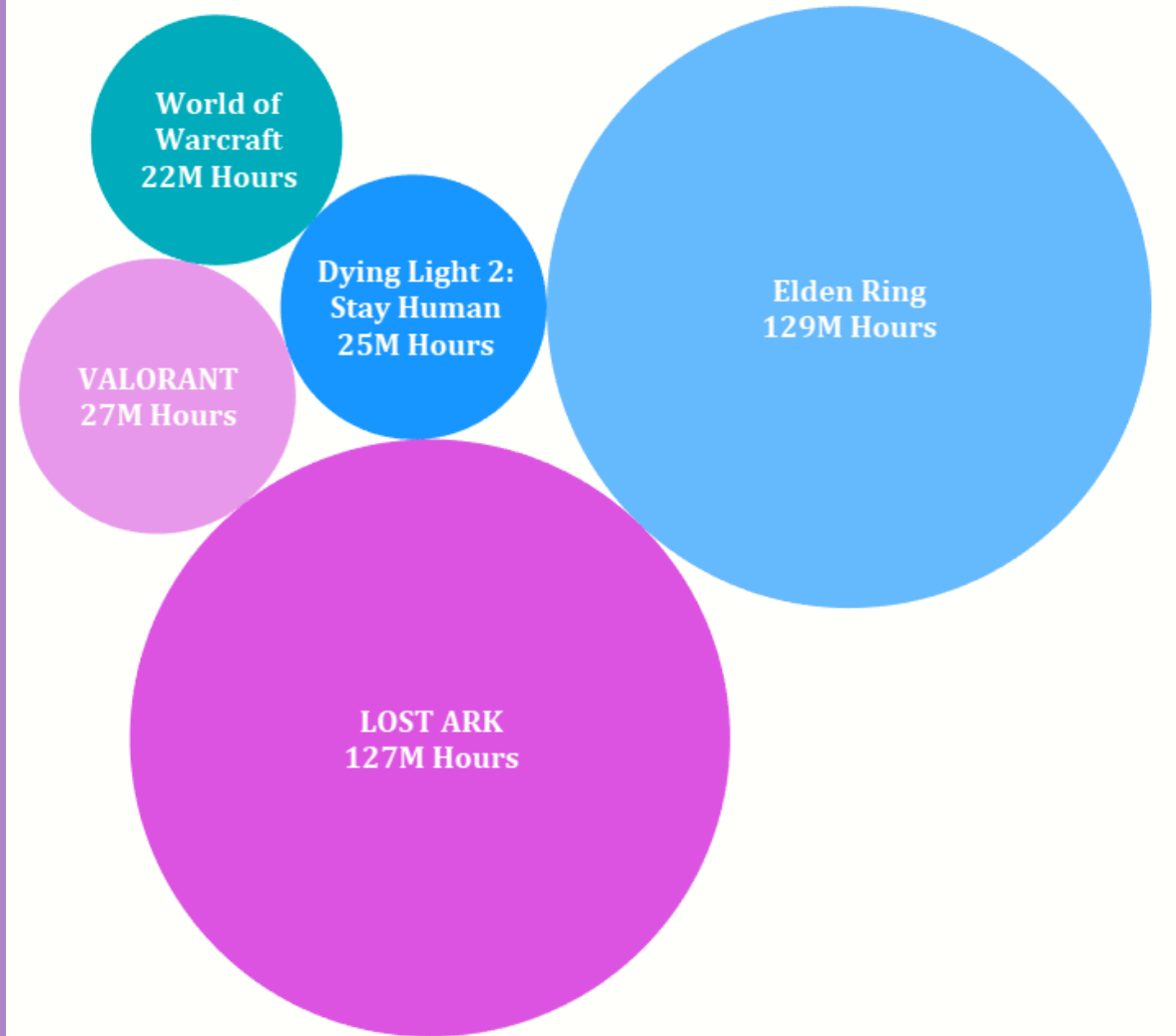
Elden Ring was released in 2022 and Lost Ark come out 2018. *What I find most interesting is they are both in the ARPG genre.*

CLICK HERE FOR TABLEAU PUBLIC

Games That Grew The Most 2021 -2022

Here is a visual from Tableau. The *popularity of ARPG* seems to have captured the attention of audiences and generated substantial viewership.

The popularity of these ARPGs might have contributed but the developers and content creators would also need to mesh well.

Top 5 Highest Increase From 2021 to 2022

World of Warcraft 22M Hours

Dying Light 2: Stay Human 25M Hours

VALORANT 27M Hours

Elden Ring 129M Hours

LOST ARK 127M Hours

Conclusion

Finally, this Twitch data research revealed unexpected insights into the top-performing titles and the top games were different than I expected. Twitch's rise over **the last seven years was also incredible to see.**

I believe **the marketing team can use this data to make better judgements** and optimize strategy. This project has sparked my interest in data-driven solutions in the fast-paced world of the gaming industry.

Key Insights

❑ Twitch was able to reach a peak of **10 thousand viewers** in a single day.

❑ Looks like **Rainbow Six Siege** takes the top spot for most hours watched.

❑ The most streamed game was close but **The Cycle Frontier** was the highest.

❑ Twitch has **grown 340%** the last 7 years.

❑ January was the best month for hours watched.

❑ From 2021 to 2022 **Elden Ring (ARPG) had the most growth.**

Thank You!

I really appreciate you taking the time to read about my recent project.

If you enjoyed the content please send me a connect on Linkedin. Also I have more recent projects that you can view on my portfolio.