



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? **Great 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

```
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;
```

	Peak_Viewers_2022	Peak_Channels_2022	Top_Viewer_Ratio
1	3366021	60854	4052.68

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 more than 3.3 million.

There was 6k channels which is an avg of 4k viewers per channel.

Most Popular Games Watched 2022

```
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	Just Chatting	283669656
2	League of Legends	184282005
3	Grand Theft Auto V	152328213
4	Lost Ark	145982931
5	Overwatch 2	139453660

Most of the top games were very close in hours watched. Just Chatting channel is at the top but it's not a game. This makes the top game League of Legends with more than 184 million hours watched.

League has been available since 2009. I am not surprised it's the top game because of the esports community. The other 3 games were released 2013, 2018, and 2016.

Most Popular Games Watched 2022



Top 5 Watched Games on Twitch 2022



Most Popular Games Streamed 2022

```
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	Elden Ring	5531512
2	Call of Duty: Modern Warfare II	4935168
3	Fortnite	4783165
4	VALORANT	4224034
5	Apex Legends	4122840

This list took me by surprise because all 5 of the games are different than the top 5 most watched games.

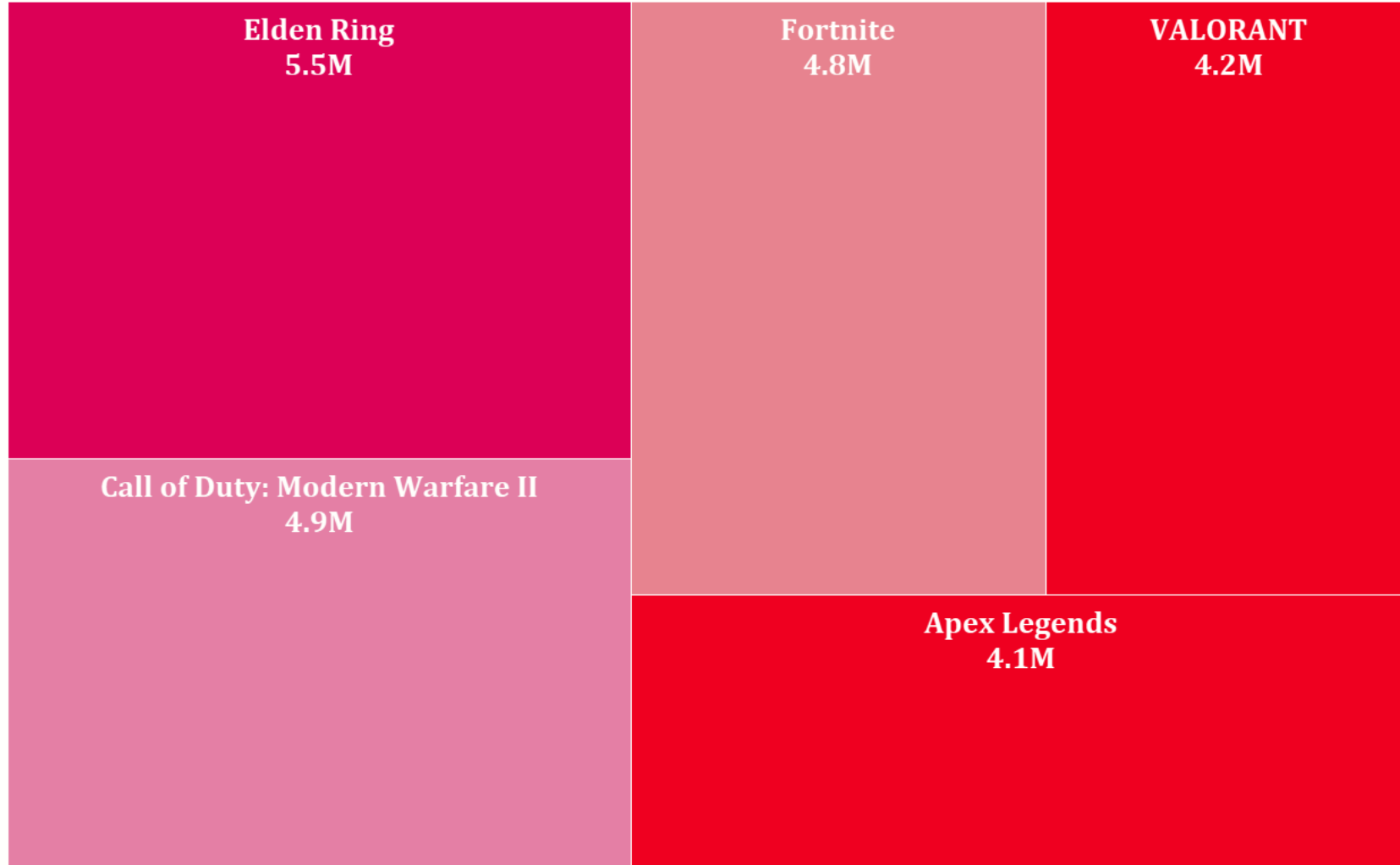
Call of duty was released in 2009 and the other 4 are 2017 or newer. I also noticed **4 of these games are from a different genre.**

- Elden Ring (Action RPG)
- Call of Duty: MW2 (FPS)
- Fortnite (Battle Royale / Action)
- Valorant (Tactical Shooter)
- Apex Legends (Battle Royale / FPS)

Most Popular Games Streamed 2022



Top 5 STREAMED Games on Twitch 2022



Elden Ring is in the number one spot with 5.5 million hours streamed.

I can also see from these numbers there are *way less streamers than people watching.*

The last 7 years

```
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;
```

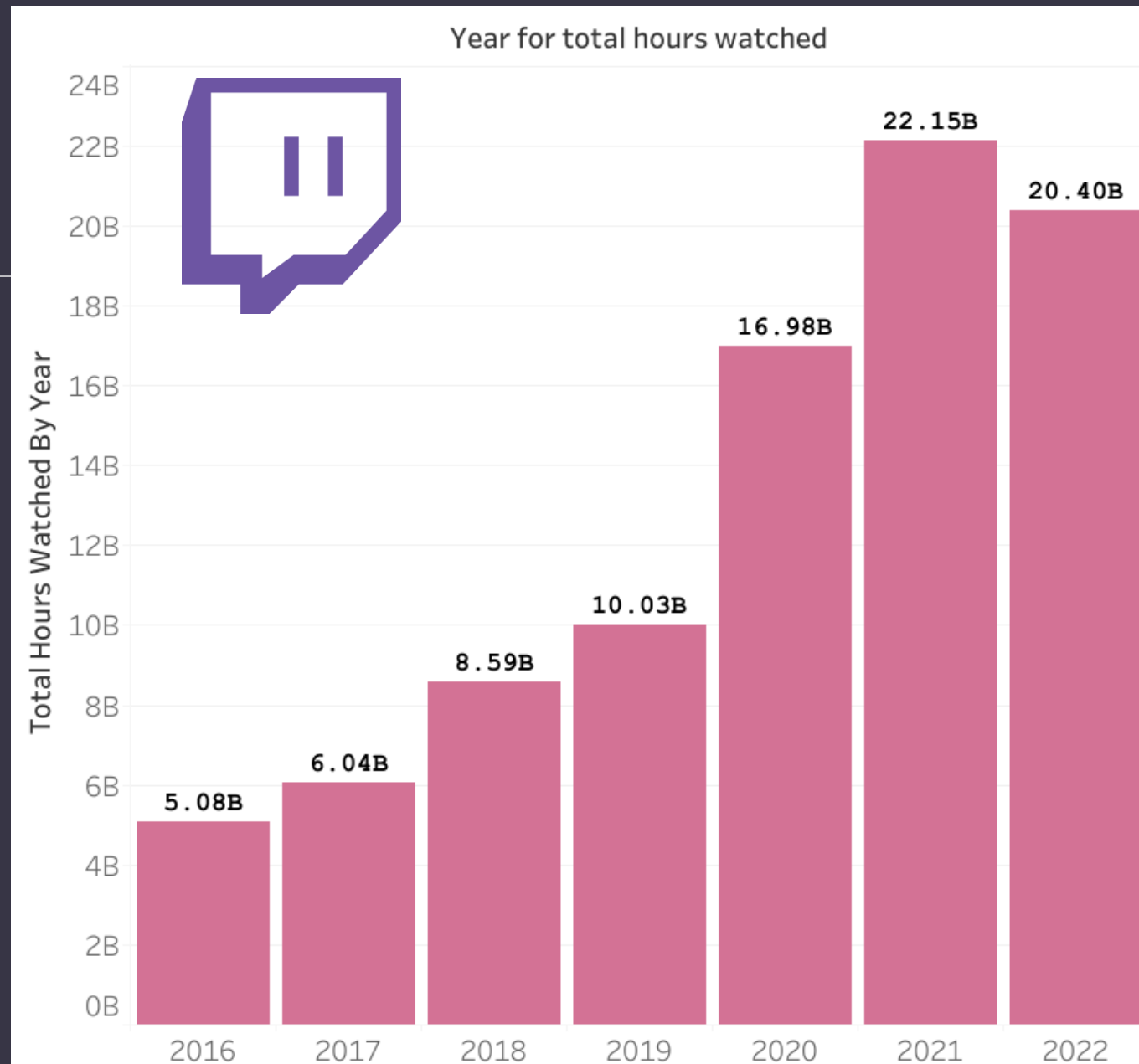
Overall looks like steady growth, 2021 being the best year. 2022 has a bit of a dip but not super far down.

	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

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.





Best Month 2022

January was the best month for hours watched and December was the worst.

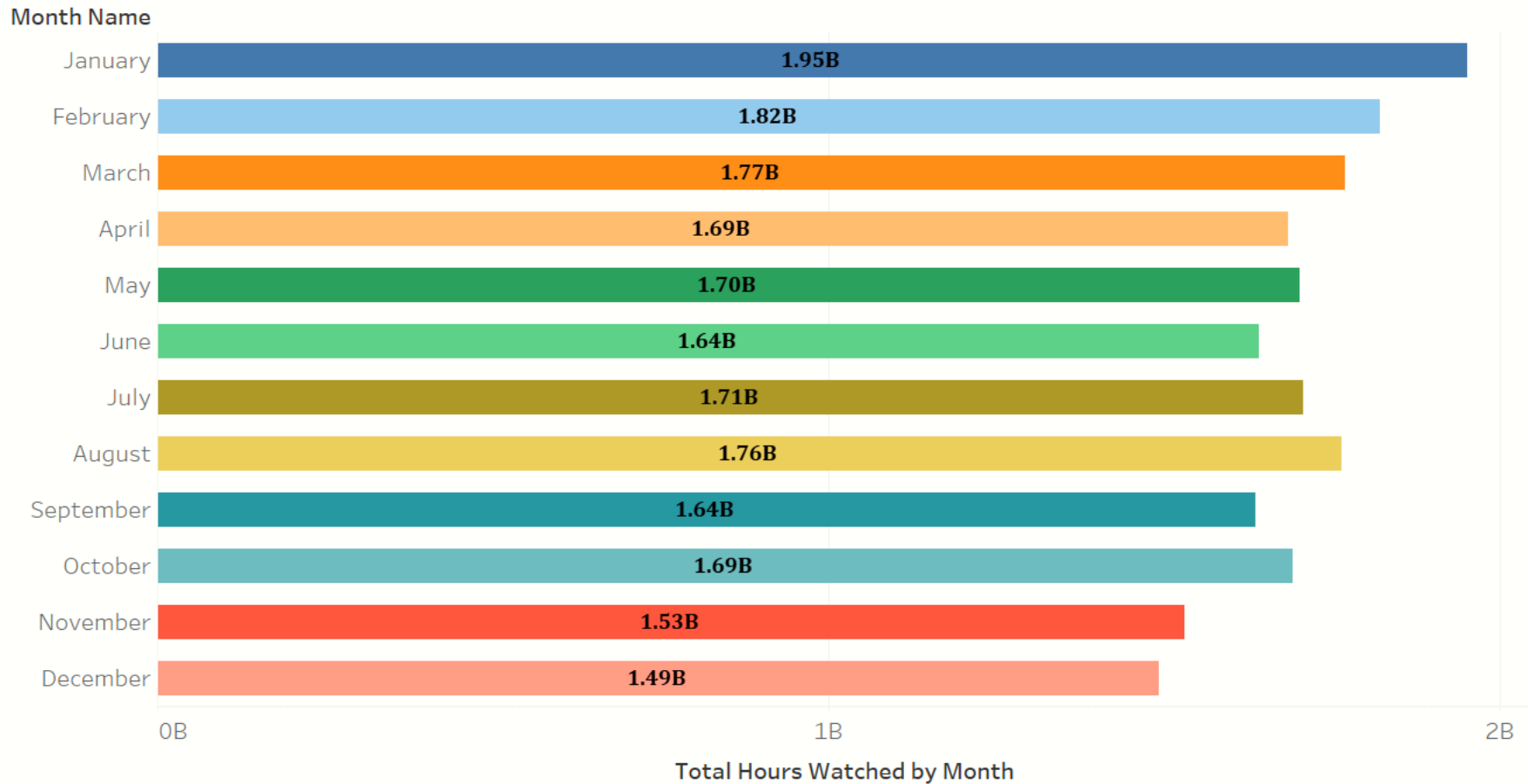
```
SELECT -- Used Case When to convert column to named month
CASE Month
  WHEN 1 THEN 'January'
  WHEN 2 THEN 'February'
  WHEN 3 THEN 'March'
  WHEN 4 THEN 'April'
  WHEN 5 THEN 'May'
  WHEN 6 THEN 'June'
  WHEN 7 THEN 'July'
  WHEN 8 THEN 'August'
  WHEN 9 THEN 'September'
  WHEN 10 THEN 'October'
  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



When you consider YouTube's 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

```
-- 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;
```

	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

Lost Ark and Elden Ring has the biggest jump in hours watched from 2021 to 2022.

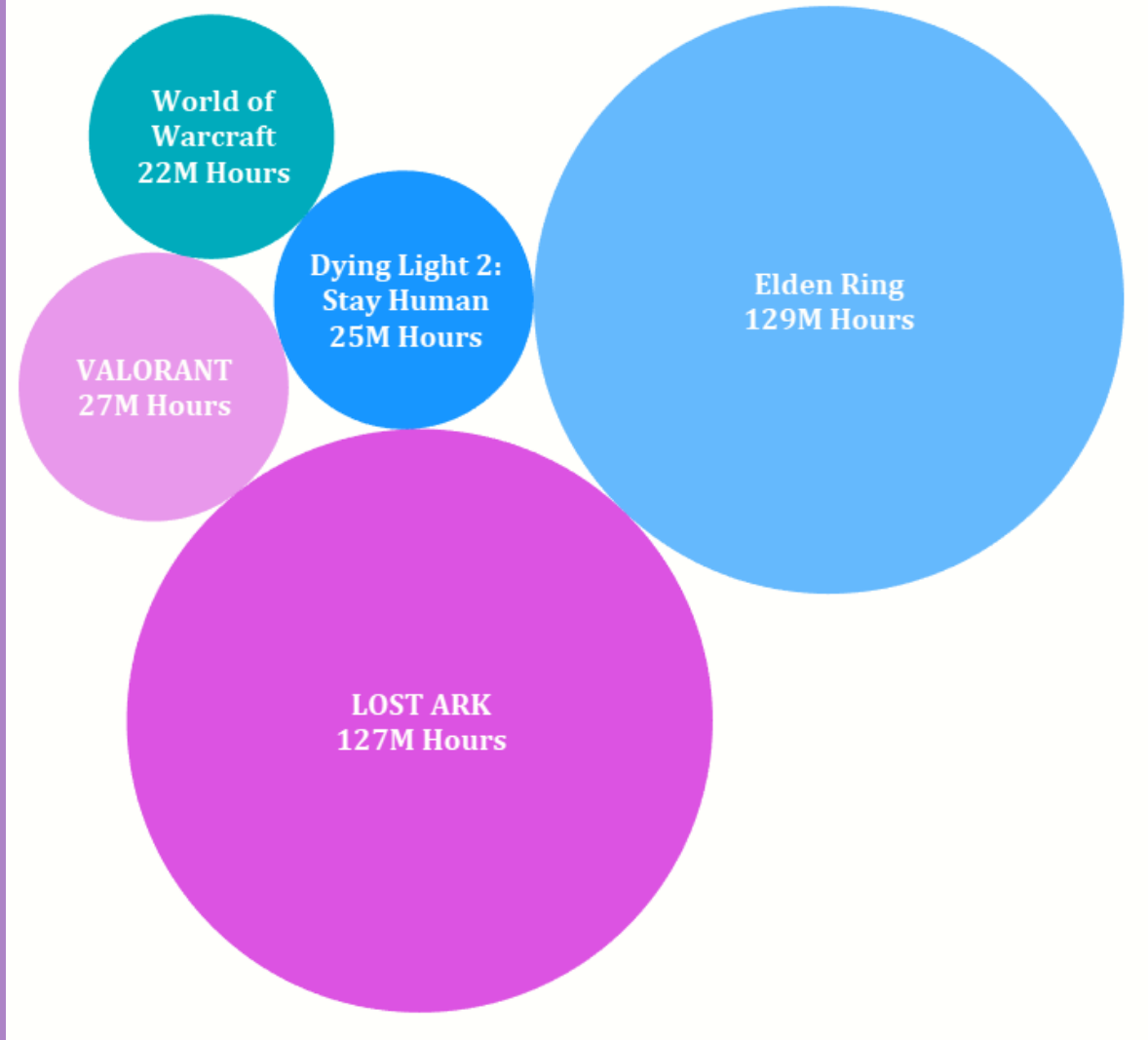
Elden Ring was released in 2022 and Lost Ark come out 2018. *What I find most interesting is they are both in the ARPG genre.*

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



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 **3.3 million viewers** in a single day.
- ❑ Looks like **League of Legends** takes the top spot for most hours watched.
- ❑ The most streamed games were all different from the most watched. It was close but **Elden Ring** was the most streamed.
- ❑ 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.** The game was released in 2021

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.