Twitch Live-Streaming Data

CGT 270 - Final Project Paper

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ABSTRACT

The purpose of this project was to evaluate viewership trends and behaviors on Twitch, the most prominent videogame live -streaming platform. This project hoped to analyze viewership by game and by streamer, as well as how viewership impacts a streamers income.

This project is important because, as a new, developing platform for entertainment, I believe that showing the trends and potential of Twitch is valuable to an audience that likes to play video games or watch videos.

By using Tableau, I created four visualizations to tackle the three questions I sought to answer: what games get the most viewership, what streamers get the most viewership, and what relationship do viewership and Twitch Partnership have. Using the visualization process, I was able to come to adequate solutions given the limitations of the data and tools.

Through this project, I hope to inform the reader of the behaviors on Twitch, as well as the potential of this new entertainment medium.

INTRODUCTION

Videogames and watching videos have always been a passion and favorite pastime of mine. Twitch is a platform that blends both of these in real-time, allowing for a person to stream themselves playing whatever they like to an audience. This paper hopes to analyze behaviors of both streamers and their viewers on this platform.

I intend for this work to be read by individuals with similar passions to myself: those who like to play videogames and like to watch videos, whatever age group they may be part of. Through this paper, I hope these individuals take away new insights regarding this rising platform.

For the reader, it is important to know that a number of assumptions were made during the visualization process. There are many streamers on Twitch who either don't get many viewers or are playing very unique games. For the purpose of my visualizations, these streamers, who unfortunately don't add much valuable data, were filtered out.

RELATED WORK

There has been considerable work done related to Twitch viewership behavior. I found one such project that analyzed community development between a streamer and their viewers.

In "Streaming on twitch: fostering participatory communities of play within live mixed media" (Hamilton, W., A., 2014), Hamilton compares real life social interaction to those that occur on Twitch. This paper analyzes viewership growth and chat interaction with hours streamed. This paper differs from mine in our emphasis. Hamilton emphasized viewership by time, my paper emphasizes viewership by game and the streamer themselves.

METHODS

I had known about Twitch for a long time, and my passion for games and videos drove me into asking questions regarding the popularity of some games. After coming up with questions I wanted answers to, I looked for data surrounding Twitch in many locations. After locating several datasets, I narrowed down the questions I wanted answers to and finalized three questions:

- What games get the most viewership and why?
- What streamers get the most viewership and why?
- What relationship do viewership and Twitch Partnership have?

Originally, I was seeking answer a question revolving the streamer's community: how does a streamer maintain a consistent viewerbase? This question was ultimately discarded since a previous work adequately answers this, mentioned in Related Works.

After finalizing the questions, I started creating the visualizations. I had over 5 GB of data, and unfortunately, Tableau could not handle the multiple millions of data points in a reasonable amount of time, so I had to narrow my scope. Ultimately, instead of a full months worth of data, I settled for just one full day, February 1st, 2015. The data for this day still has almost 200,000 data points.

After creating multiple visualizations for each question, one to two visualizations were chosen and used for the poster.

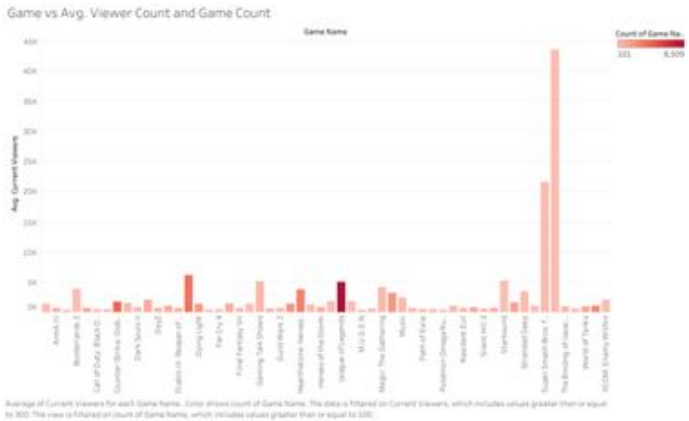
RESULTS

This section contains the four visualizations that were chosen to answer each of the questions selected. Each question and visualization provides important information.

Question 1

- What games get the most viewership and why?

Figure 1.1

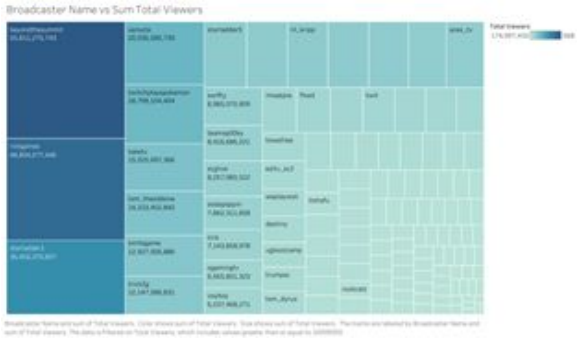


This first visualizations shows average viewers per game through the bar height, and the number of streams featuring each game through the bar color.

Question 2

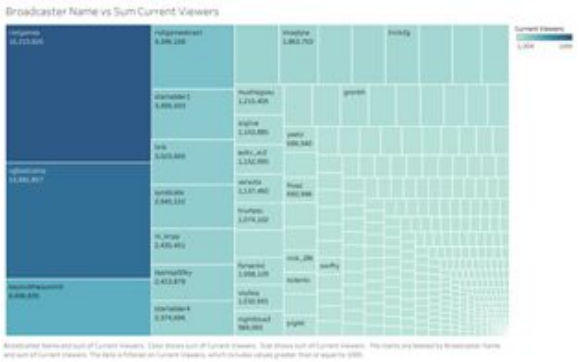
- What streamers get the most viewership and why?

Figure 2.1



This visualization shows the total number of views the most popular streamers have gotten in their lifetime. The size and color both show the number of views.

Figure 2.2

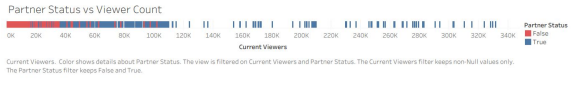


This visualization shows the total number of views the most popular streamers have gotten during the day. The size and color both show the number of views.

Question 3

- What relationship do viewership and Twitch Partnership have?

Figure 3.1



This visualization shows whether a streamer is partnered with Twitch based on the number of views they get on a daily basis.

DISCUSSION

These visualizations all help answer the questions mentioned above. I will analyze them in order.

Figure 1.1 is used to answer question 1. In this visualization, we can see that Smash Bros. Melee and Smash Bros for Wii U seem to have the most average viewers per streamer. Interestingly, on the date selected, a major Smash Bros tournament, called Apex 2015, was happening, which likely influenced the number of views. Additionally, League of Legends and Dota 2 seem to have the most streamers playing. These games have the most competition, which could influence the number of views these games get.

Figure 2.1 and Figure 2.2 are used to answer question 2. In these visualizations, we can see how major Esports streamers, like beyondthesummit, vgbootcamp, and riotgames, get the most viewers. This aligns with the insights gained from Figure 1.1: the theory that major Esports tournaments get the most views on Twitch.

Figure 3.1 is used to answer question 3. In this visualization, we can see how the majority of partnered streamers get over 60000 viewers daily, and as one might expect, more streamers start getting partnered with higher view counts. When compared to other video hosting platforms

like YouTube, these numbers are surprisingly low.

FUTURE WORK

This topic is of great interest to me, and given additional time, I could more properly address this project's greatest shortcoming: its minimal scope. While one day's worth of data had many data points, it becomes hard to adequately come to conclusions about trends with such a narrow scope. For next steps, I would expand this scope to include the rest of the month, and I would also look for more recent data.

An interesting add-on could be to expand on Figure 3.1 and look for data regarding partnership on YouTube or other streaming platforms. This could help analyze trends of Twitch itself compared to these other platforms, broadening the scope even further.

This project has a lot of potential for growth, and this is just the beginning.

REFERENCES

"TWITCH STATISTICS & CHARTS." TwitchTracker, https://twitchtracker.com/statistics.

"Dataset for 'Cloud-Assisted Crowdsourced Livecast.'"Github, https://clivecast.github.io/.