

Assignment - 1

How Big is Big Data?

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IFT511 - Big Data Analysis
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18th January, 2024

TWITTER

1. The number of twitter users are:

- Total Users:
 - “Around 528.3 million monetizable monthly active users (mMAUs) as of 2024. This metric focuses on users who are likely to see ads, which gives a better picture of Twitter's revenue potential” (Website: Twitter)
 - “550 million monthly active users was reported by X/Twitter owner Elon Musk in 2023, although some estimates are lower” (Website: Twitter)
- Monthly Active Users (MAUs):
 - 450 million based on data from 2022. This metric includes all users who log in at least once during a month.
- Daily Active Users (DAUs):
 - 237.8 million monetizable daily active users (mDAUs) reported in the second quarter of 2022. This metric measures the number of users who log in on a given day.

2. “At least 500 million tweets are sent every single day on Twitter. That's like the entire population of Spain firing off tweets all at once!”[1, 2]

To put that into perspective, let's break it down by the hour:

- “Over 20.8 million tweets per hour fly through the Twitterverse. That's like 347,222 tweets every minute, or a mind-blowing 5,787 tweets every second!” [3]
- Imagine reading a new tweet every 0.17 seconds – that's the pace at which tweets are generated!

3. Here's the breakdown of the average number of tweets per user:

- “Most users tweet only once per month. Yep, that's right, just a single tweet in a whole month” [4] It seems many folks prefer to be more on the “lurking” side, consuming content rather than creating it.
- “But there's a small group of super-tweeters! The top 10% of users generate a whopping 92% of all tweets!” [4] These are the influencers, newsmakers, and dedicated tweeters who keep the platform buzzing.

- “On average, the top 20% of users tweet around 157 times per month, while the remaining 80% average only around 5 tweets per month” [6]

4. If each Twitter user represents a node, and each follow represents a directed edge from one node to another, we can estimate the total number of follow edges on the Twitter graph. Assuming each of the 300 million Twitter users follows at least one other user, we have a directed edge for each of these follows. This results in a minimum of 300 million directed edges.

However, it's important to note that Twitter users can follow multiple accounts, and there are likely users who follow a significant number of other users. Additionally, some users may have a large number of followers. To get a more accurate estimate, we would need detailed data on the distribution of followers per user, which is not publicly available.

Therefore, while we can estimate a minimum number of follow edges based on the total number of users (300 million), the actual number is likely higher due to variations in user behavior.

ROBLOX

1. The statistics of users of Roblox are:
 - Roblox has over 216 million monthly active users globally.
 - It sees around 70.2 million daily active users.
 - The peak player count for Roblox was around 25.3 million.
 - “It's safe to say that the platform has a massive and thriving community of over 200 million monthly active users, making it one of the most popular online gaming platforms in the world!” [5]
2. Approximately 4-5 million players are likely active on Roblox. This is based on recent daily active user (DAU) averages and current time of day trends.
3. It's dependent on the specific game and server type you're considering. However, you can expect to find Roblox experiences with:
 - Standard servers: Up to 50 players.
 - Popular games: Often hundreds of players in big lobbies.
 - MEGA servers: Up to 700 players (limited availability).
 - Private servers: Variable capacity depending on the developer's settings.

References

- [1] The Social Shepherd: <https://twitter.com/thesocialshep?lang=en>
- [2] Business of Apps: <https://twitter.com/BusinessofApps>
- [3] Internet Live Stats: <https://www.internetlivestats.com/>
- [4] Blogging Wizard: <https://twitter.com/bloggingwizard>
- [5] Roblox User and Growth Stats You Need to Know in 2024: <https://backlinko.com/roblox-users>
- [6] Pew Research Center: <https://www.pewresearch.org/>