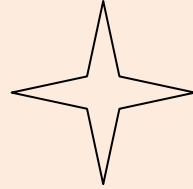
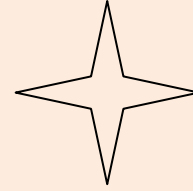


Song vs. Music Video Popularity

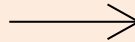
Anjali Sharma and Meredith Grife

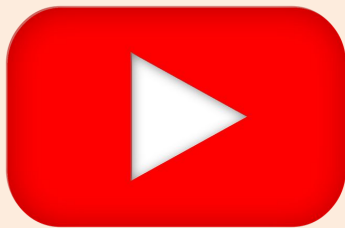




Our Project Goal


The aim of our project was to examine the correlation between a song's popularity on Spotify and the engagement of its corresponding music video on YouTube.



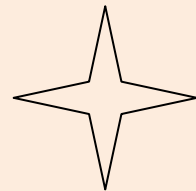




The Data We Used

- Youtube API
 - Like count
 - Dislike count
 - View count
 - Comment count
 - Spotify API
 - Song popularity (calculated by total streams, how recently played, and frequency played)
- 

What We Extracted from the Data



Spotify

We then extracted data
about the 100 songs
using the Spotify API.



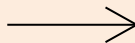
Youtube

Finally, we found the 100
corresponding music
videos on Youtube and
extracted their data using
the Youtube API.



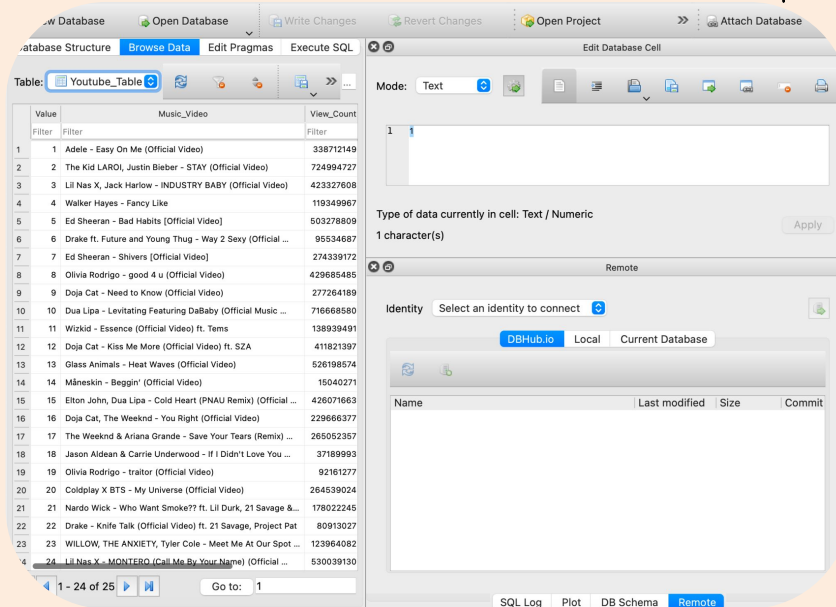
Billboard Hits

We took the top 100
songs on the Billboard
charts from November
2021.



Our Database

We created Spotify_and_Youtube_Table.db from the data we extracted from Spotify and Youtube. There is a table for Spotify data and a table for Youtube data.



The screenshot shows a database application window with a menu bar (File, Edit, View, Database, Window, Help) and a toolbar. The main window is titled 'Database Structure' and shows a table named 'Youtube_Table'. The table has three columns: 'Value', 'Music_Video', and 'View_Count'. The 'Value' column contains a list of music videos, and the 'View_Count' column contains their respective view counts. The 'Music_Video' column is currently selected, and the 'View_Count' column is visible. The table is sorted by 'View_Count' in descending order. The first row is 'Adele - Easy On Me (Official Video)' with a view count of 338712149. The second row is 'The Kid LAROI, Justin Bieber - STAY (Official Video)' with a view count of 724994727. The third row is 'Lil Nas X, Jack Harlow - INDUSTRY BABY (Official Video)' with a view count of 423327608. The fourth row is 'Walker Hayes - Fancy Like' with a view count of 119349967. The fifth row is 'Ed Sheeran - Bad Habits (Official Video)' with a view count of 503278809. The sixth row is 'Drake ft. Future and Young Thug - Way 2 Sexy (Official ...)' with a view count of 955346687. The seventh row is 'Ed Sheeran - Shivers (Official Video)' with a view count of 274339172. The eighth row is 'Olivia Rodrigo - good 4 u (Official Video)' with a view count of 429685485. The ninth row is 'Doja Cat - Need to Know (Official Video)' with a view count of 277264189. The tenth row is 'Dua Lipa - Levitating Featuring DaBaby (Official Music ...)' with a view count of 716668580. The eleventh row is 'Wickid - Essence (Official Video) ft. Tems' with a view count of 138939491. The twelfth row is 'Doja Cat - Kiss Me More (Official Video) ft. SZA' with a view count of 411821397. The thirteenth row is 'Glass Animals - Heat Waves (Official Video)' with a view count of 626198574. The fourteenth row is 'Måneskin - Beggin' (Official Video)' with a view count of 15040271. The fifteenth row is 'Elton John, Dua Lipa - Cold Heart (PNAU Remix) (Official ...)' with a view count of 426071663. The sixteenth row is 'Doja Cat, The Weeknd - You Right (Official Video)' with a view count of 229666377. The seventeenth row is 'The Weeknd & Ariana Grande - Save Your Tears (Remix) ...' with a view count of 265052357. The eighteenth row is 'Jason Aldean & Carrie Underwood - If I Didn't Love You ...' with a view count of 37189993. The nineteenth row is 'Olivia Rodrigo - traitor (Official Video)' with a view count of 92161277. The twentieth row is 'Coldplay X BTS - My Universe (Official Video)' with a view count of 264539024. The twenty-first row is 'Nardo Wick - Who Want Smoke?? ft. Lil Durk, 21 Savage & ...' with a view count of 178022245. The twenty-second row is 'Drake - Knife Talk (Official Video) ft. 21 Savage, Project Pat' with a view count of 80913027. The twenty-third row is 'WILLOW, THE ANXIETY, Tyler Cole - Meet Me At Our Spot ...' with a view count of 123964082. The twenty-fourth row is 'Lil Nas X - MONTERO (Call Me By Your Name) (Official ...)' with a view count of 530039130. The table is currently displaying rows 1 to 24 of 25. Below the table, there is a text input field with the text '1'. The input field is labeled 'Mode: Text' and has a dropdown menu. Below the input field, there is a label 'Type of data currently in cell: Text / Numeric' and a button 'Apply'. Below the input field, there is a label 'Identity' and a dropdown menu 'Select an identity to connect'. Below the identity dropdown, there are three tabs: 'DBHub.io', 'Local', and 'Current Database'. Below the tabs, there is a table with four columns: 'Name', 'Last modified', 'Size', and 'Commit'. The table is currently empty. At the bottom of the window, there are buttons for 'SQL Log', 'Plot', 'DB Schema', and 'Remote'.

Value	Music_Video	View_Count
1	Adele - Easy On Me (Official Video)	338712149
2	The Kid LAROI, Justin Bieber - STAY (Official Video)	724994727
3	Lil Nas X, Jack Harlow - INDUSTRY BABY (Official Video)	423327608
4	Walker Hayes - Fancy Like	119349967
5	Ed Sheeran - Bad Habits (Official Video)	503278809
6	Drake ft. Future and Young Thug - Way 2 Sexy (Official ...)	955346687
7	Ed Sheeran - Shivers (Official Video)	274339172
8	Olivia Rodrigo - good 4 u (Official Video)	429685485
9	Doja Cat - Need to Know (Official Video)	277264189
10	Dua Lipa - Levitating Featuring DaBaby (Official Music ...)	716668580
11	Wickid - Essence (Official Video) ft. Tems	138939491
12	Doja Cat - Kiss Me More (Official Video) ft. SZA	411821397
13	Glass Animals - Heat Waves (Official Video)	626198574
14	Måneskin - Beggin' (Official Video)	15040271
15	Elton John, Dua Lipa - Cold Heart (PNAU Remix) (Official ...)	426071663
16	Doja Cat, The Weeknd - You Right (Official Video)	229666377
17	The Weeknd & Ariana Grande - Save Your Tears (Remix) ...	265052357
18	Jason Aldean & Carrie Underwood - If I Didn't Love You ...	37189993
19	Olivia Rodrigo - traitor (Official Video)	92161277
20	Coldplay X BTS - My Universe (Official Video)	264539024
21	Nardo Wick - Who Want Smoke?? ft. Lil Durk, 21 Savage & ...	178022245
22	Drake - Knife Talk (Official Video) ft. 21 Savage, Project Pat	80913027
23	WILLOW, THE ANXIETY, Tyler Cole - Meet Me At Our Spot ...	123964082
24	Lil Nas X - MONTERO (Call Me By Your Name) (Official ...)	530039130



Processing Data

Next, we extracted 25 songs from our database with a SELECT and JOIN. We calculated our Youtube engagement as the $100 * (\text{number of likes} + \text{number of comments}) / (\text{number of views})$.





Spotify_And_YouTube_DB

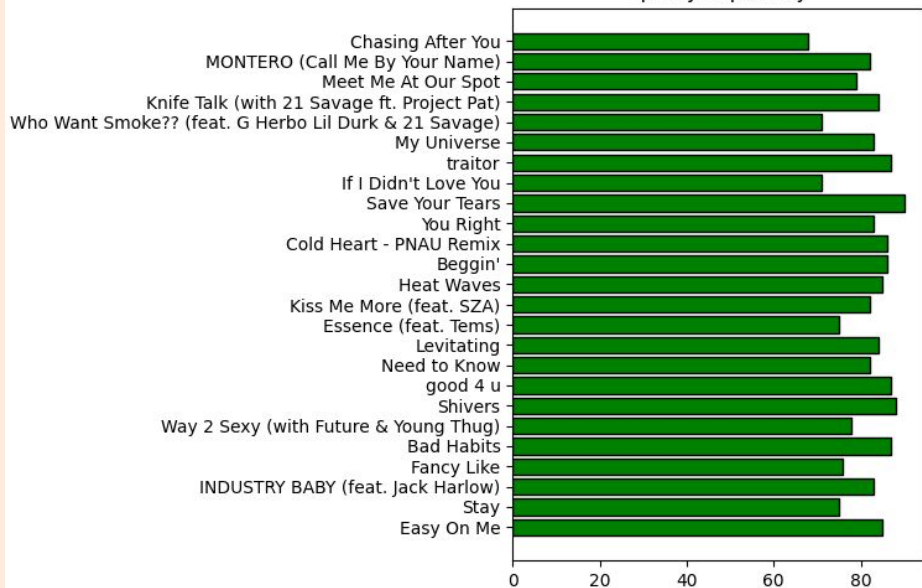
Song_Name	Spotify_Popularity	Youtube_Enagement_Score
Easy On Me	85	20.476
Stay	75	14.7689
INDUSTRY BABY (feat. Jack Harlow)	83	22.711
Fancy Like	76	6.6916
Bad Habits	87	8.8201
Way 2 Sexy (with Future & Young Thug)	78	13.4225
Shivers	88	8.4028
good 4 u	87	16.6072
Need to Know	82	15.4359
Levitating	84	9.9578
Essence (feat. Tems)	75	7.4358
Kiss Me More (feat. SZA)	82	11.6991
Heat Waves	85	14.5433
Beggin'	86	16.1777
Cold Heart - PNAU Remix	86	6.2638
You Right	83	13.1364
Save Your Tears	90	13.4531
If I Didn't Love You	71	6.3104
traitor	87	24.0118
My Universe	83	35.5181
Who Want Smoke?? (feat. G Herbo Lil Durk & 21 Savage)	71	8.9416
Knife Talk (with 21 Savage ft. Project Pat)	84	10.6334
Meet Me At Our Spot	79	16.5784
MONTERO (Call Me By Your Name)	82	22.3463
Chasing After You	68	7.1371



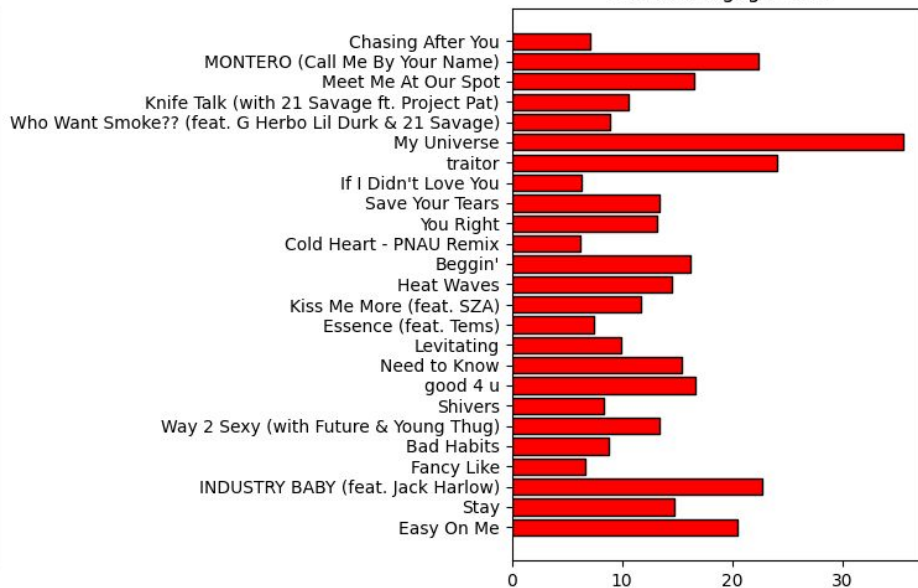
Bar Graphs of Popularity and Engagement



Spotify Popularity

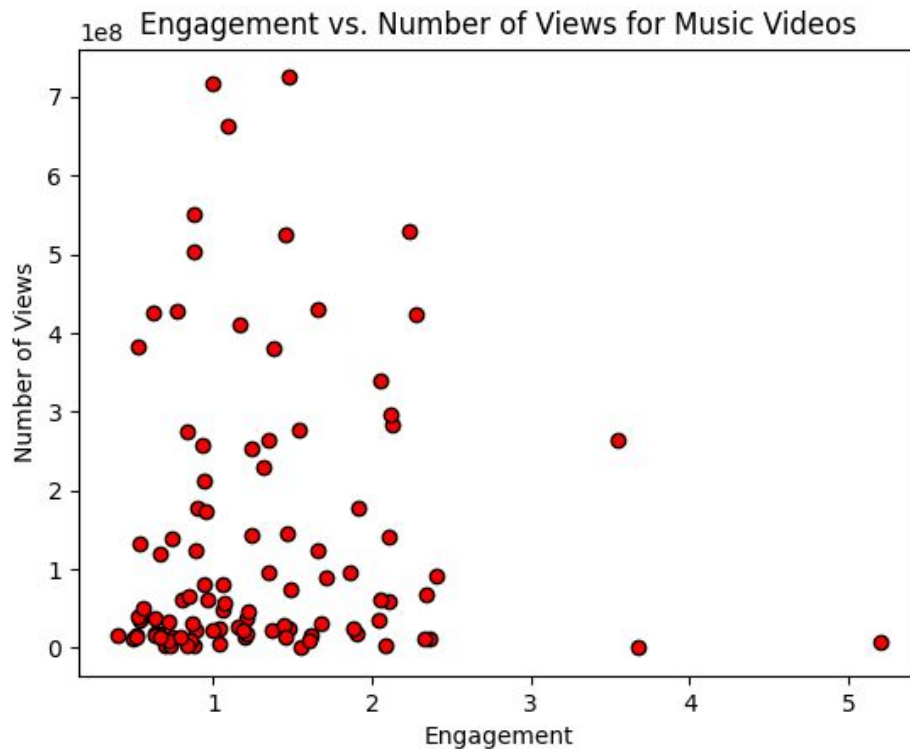


Youtube Engagement





Scatter Plot of Engagement vs. Views





Thanks!

Any questions?

