



# The Rise and Fall of Different Music Genres

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# Agenda

- Data Sources
- Data Gathering and Cleaning Steps
- Analysis
- Conclusion
- Ethical Implications



# Data Sources

- Billboard Hot 100 API
  - Date
  - Song Name
  - Artists
  - Billboard Score
- Spotify API
  - Genre(s)



# Song Data Cleaning

1. Convert Artist Names into Usable Format
2. Remove Duplicates

```
Date|Title|Artist|Rank
1958-08-09|Poor Little Fool|Ricky Nelson|1
1958-08-09|Nel Blu Dipinto Di Blu (Volaré)|Domenico Modugno|2
1958-08-09|Patricia|Perez Prado And His Orchestra|3
1958-08-09|Splish Splash|Bobby Darin|4
1958-08-09|When|Kalin Twins|5
1958-08-09|My True Love|Jack Scott|6
1958-08-09|Hard Headed Woman|Elvis Presley With The Jordanaires|7
1958-08-09|Rebel-'rouser|Duane Eddy With His Twangy Guitar And The Rebels|8
1958-08-09|Just A Dream|Jimmy Clanton And His Rockets|9
```

# Genre Data Cleaning

1. Create Buckets
2. Assign Genres to Artists

Artists	Spotify ID	Spotify Genres
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Johnnie Ray	6S0KNCUKIWjR1p01U3PZZq	['adult standards', 'brill building pop', 'christmas', 'deep adult standards', 'rock-and-roll']
Dale Hawkins	7kcPzHlsyJm5tDv7JMcR6T	['rock-and-roll', 'rockabilly']
Teresa Brewer	2mPL4g4v9DS55zi6QctLbP	['adult standards', 'christmas', 'deep adult standards']
Carl Smith	4FmgWM5kNxZ8ibCNPS6hHN	['country gospel', 'cowboy western', 'nashville sound', 'traditional country', 'western swing']
Ivory Joe Hunter	3DpdJvcq90sWYUx35Tcbea	['jazz blues', 'piano blues', 'rhythm and blues']
Robert Mitchum	3ttV5d4dhwr1R48j5I5FE3	['lounge']
Doug Franklin	5ItW8koMZZaE8yowFLRF3f	[]
Joni James	0hiq5HixjN3gtSXLZmnBw	['adult standards', 'cabaret', 'christmas', 'deep adult standards', 'easy listening', 'lounge']
Conway Twitty	7gi3jmwUjNwdsV8eEprF	['country', 'country gospel', 'country rock', 'cowboy western', 'nashville sound', 'outlaw country', 'traditional country']
Little Richard	4xls23Ye9WR9vy3yYMPAMm	['adult standards', 'brill building pop', 'christmas', 'motown', 'rock-and-roll', 'rockabilly', 'soul']
The Applejacks	27up4HDNmGpKK60gRie2tB	['british invasion', 'merseybeat', 'rock-and-roll']
Earl Grant	0k3XbZNQTR8KVW2yWyJDDx	['space age pop']
Jane Morgan	4CVHH6NpR8WwHLYjgI4t7A	['deep adult standards']
Ruth Brown	4EYVgfZJ38wKXWmIvCx3g0Y	['jazz blues', 'jump blues', 'rhythm and blues', 'rock-and-roll', 'soul', 'southern soul']
Ritchie Valens	5Y9xEAGW4GwGJgbiI6W85P	['adult standards', 'brill building pop', 'doo-wop', 'rock-and-roll', 'rockabilly']
The Four Coins	1XQXkciRULT2PXhRUtmuH	['deep adult standards', 'vocal harmony group']

# Buckets

Format is: Genre: [Keywords]

```
buckets = {  
    'Rock': ['rock', 'surf', 'beach', 'guitar', 'british invasion', 'scottish new wave'],  
    'Metal/Punk': ['metal', 'punk', 'screamo'],  
    'Christian/Gospel': ['christian', 'gospel'],  
    'Country': ['country', 'western', 'nashville'],  
    'Dance/Electronic': ['dance', 'electronic', 'trance', 'techno', 'house', 'lo-fi', 'tronica', 'edm'],  
    'Holiday': ['christmas'],  
    'Latin': ['latin', 'salsa'],  
    'Pop': ['pop', 'group'],  
    'Pop Standards': ['standards', 'easy', 'cabaret'],  
    'Classical': ['classical', 'orchestra'],  
    'R&B/Hip-hop': ['rap', 'r&b', 'hip', 'hop'],  
    'Jazz & Blues': ['jazz', 'blues', 'doo-wop', 'bluegrass'],  
    'Soul': ['motown', 'soul', 'funk', 'disco'],  
    'Ska/Reggae/Folk': ['reggae', 'ska', 'folk']  
}
```

# Final Data (249,543 rows)

DATE	TITLE	ARTIST	RANK	GENRE
1958-08-09	Poor Little Fool	Ricky Nelson	1	Rock
1958-08-09	Nel Blu Dipinto Di Blu (Volaré)	Domenico Modugno	2	Pop
1958-08-09	Splish Splash	Bobby Darin	4	Pop Standards
1958-08-09	My True Love	Jack Scott	6	Rock
1958-08-09	Hard Headed Woman	Elvis Presley	7	Rock
1958-08-09	Rebel-'rouser	Duane Eddy	8	Rock
1958-08-09	Just A Dream	Jimmy Clanton	9	Pop
1958-08-09	Yakety Yak	The Coasters	11	Jazz & Blues
1958-08-09	If Dreams Came True	Pat Boone	12	Pop Standards
1958-08-09	Fever	Peggy Lee	13	Pop Standards
1958-08-09	Little Star	The Elegants	14	Jazz & Blues
1958-08-09	Ginger Bread	Frankie Avalon	15	Pop
1958-08-09	Everybody Loves A Lover	Doris Day	16	Pop Standards
1958-08-09	One Summer Night	The Danleers	17	Jazz & Blues
1958-08-09	Left Right Out Of Your Heart (Hi Lee Hi Lo Hi Lup Up Up)	Patti Page	19	Pop Standards
1958-08-09	Western Movies	The Olympics	21	Jazz & Blues
1958-08-09	Guess Things Happen That Way	Johnny Cash	22	Country
1958-08-09	For Your Precious Love	Jerry Butler	23	Soul
1958-08-09	Somebody Touched Me	Buddy Knox	25	Jazz & Blues
1958-08-09	Are You Really Mine	Jimmie Rodgers	26	Country
1958-08-09	Do You Want To Dance	Bobby Freeman	27	Jazz & Blues
1958-08-09	A Certain Smile	Johnny Mathis	28	Pop Standards
1958-08-09	Enchanted Island	The Four Lads	29	Pop Standards
1958-08-09	Moon Talk	Perry Como	30	Pop Standards

# Analysis

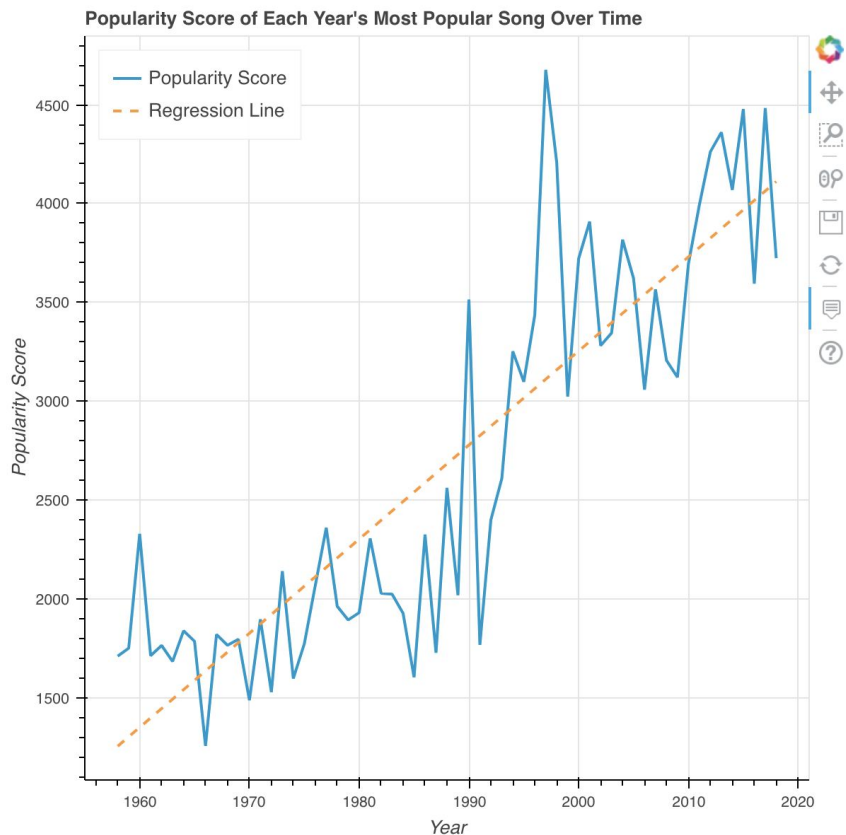
4 guiding questions:

1. How has the popularity of songs changed over the years?
2. How has the popularity of different genres changed over the years?
3. Are the most popular songs of the year always in the most popular genre of that year?
4. What do the popular songs of 2018 look like?



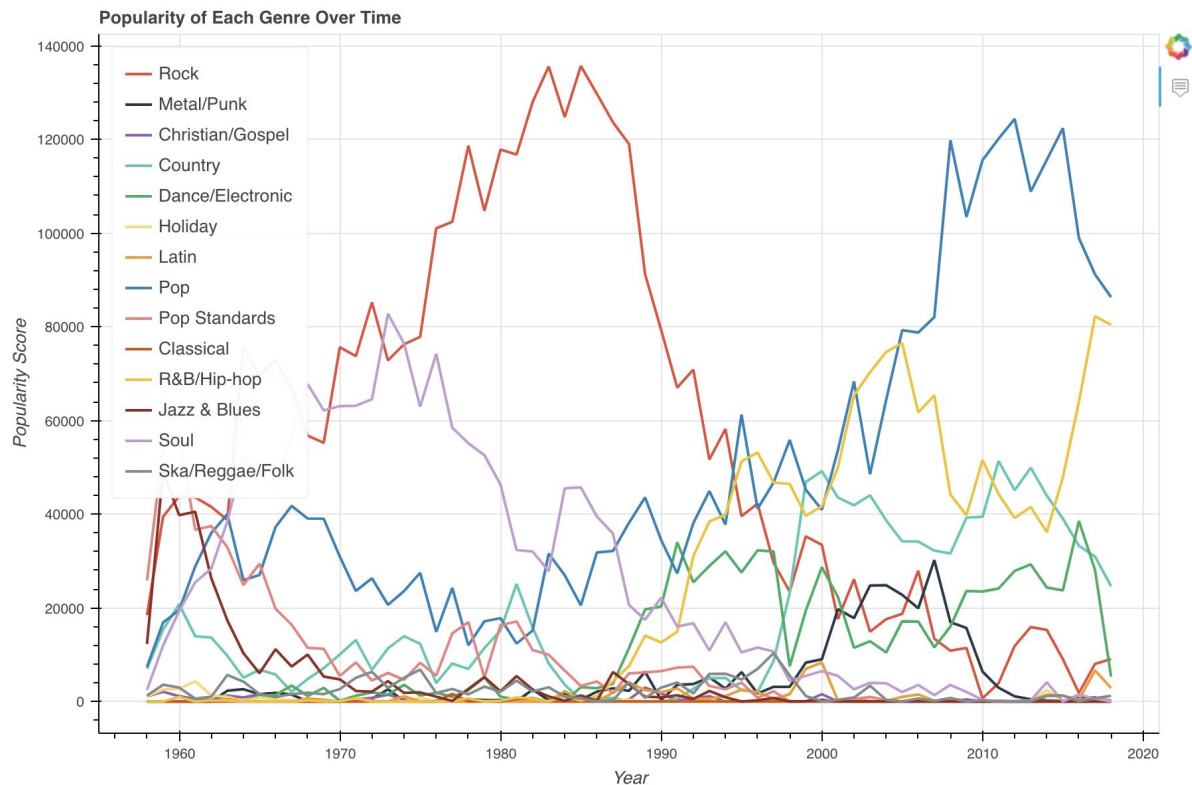


# Popularity of Songs versus Time



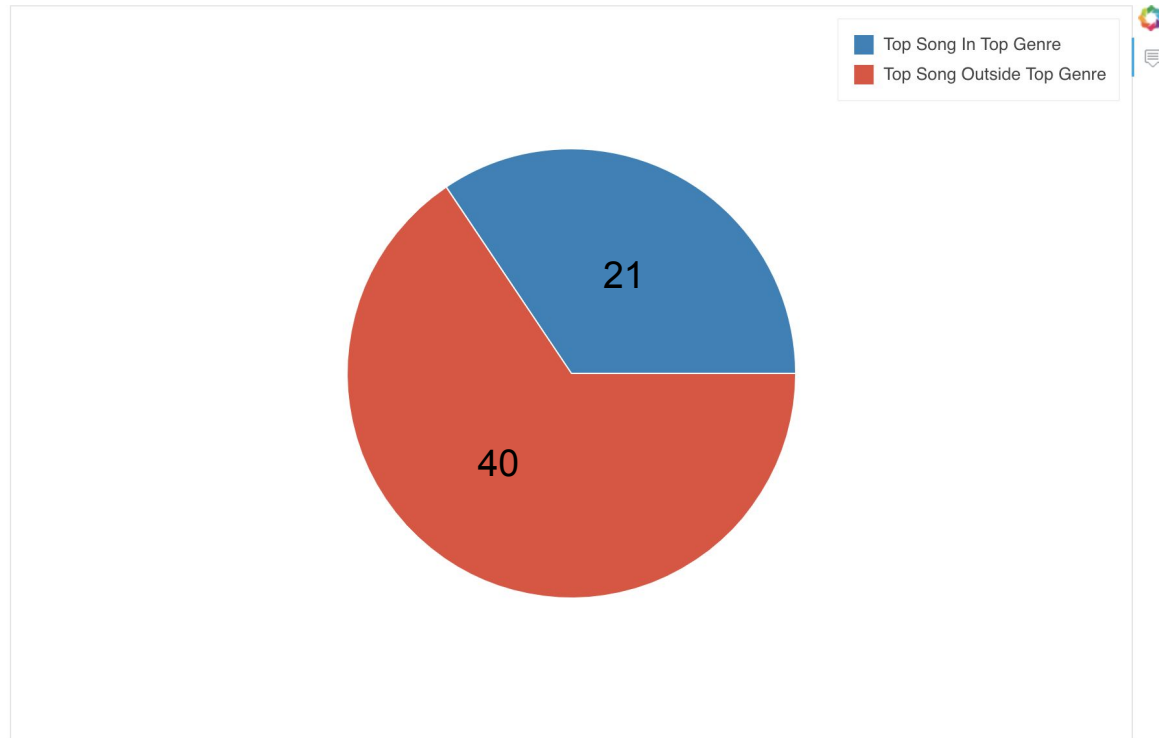
Popularity Score =  $101 - \text{Billboard Rank}$

# Popularity of Genres versus Time

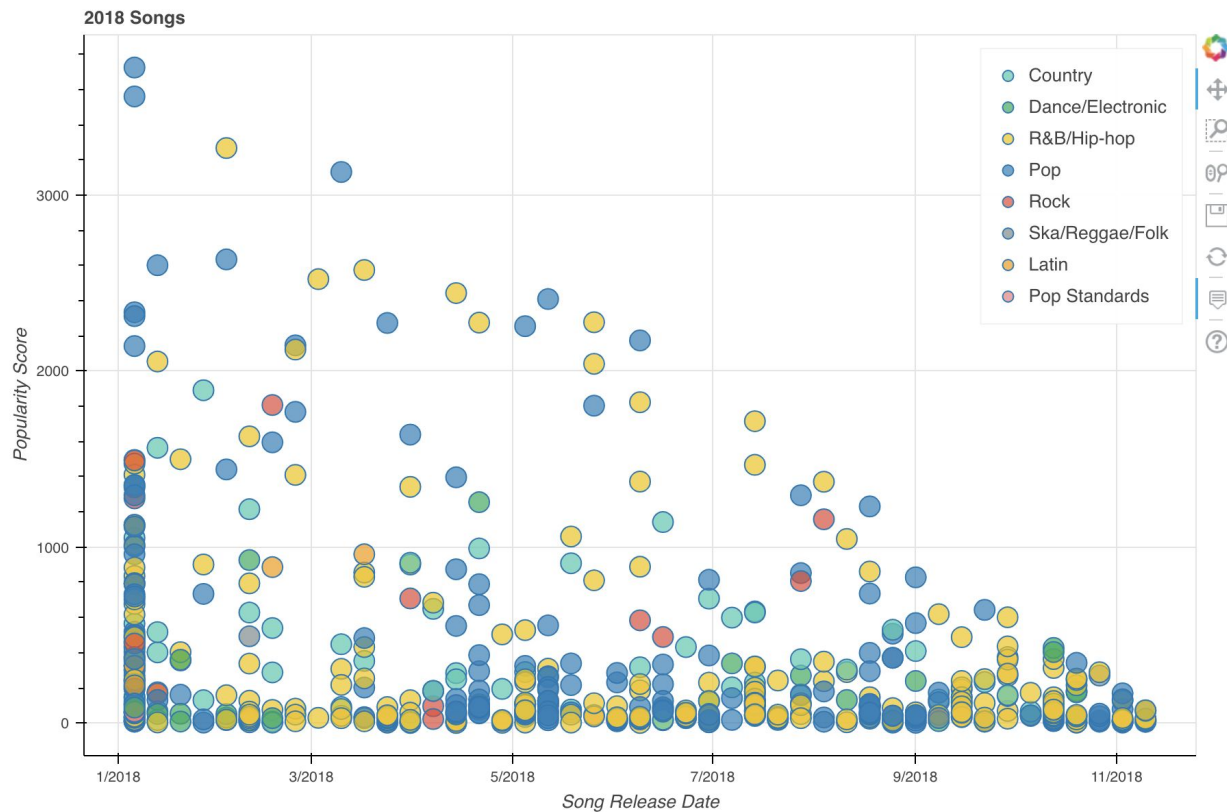


# Are Most Popular Songs Always Part of Most Popular Genre?

Frequency of Top Song in the Top Genre



# Popular Songs of 2018




# Conclusion

- Collecting our data wasn't easy; had to splice multiple sources
- Taste in Music is Converging
- Rock enjoyed its Heyday in the 80's, but Pop and Hip-hop/Rap/R&B are the dominant genres now
- Most Popular Songs are usually **not** part of the most popular genre
- Song Data from 2018 supports the conclusion that Pop and Hip-hop/Rap/R&B are the most popular, and this doesn't look to be changing soon.



# Ethical Implications

We believe the this project has a low potential to cause ethical issues. Our results are only intended to create cool, fun, and interesting facts for music enthusiasts and those looking to expand their music genre trivia knowledge. We also collected our data from publicly available, open, sources which mitigates any potential privacy concerns. While our conclusions will likely not directly affect social trends, they could potentially be misused or wrongly cited as sources of social analysis, but we believe this to be an unlikely outcome. Our methods for evaluating popularity were purely numerical and available with the study, thus creating transparency and maintaining the scientific integrity of the study.





Questions?