The Rise and Fall of Different Music Genres

By: Will Slotterback, Todd Roberts, and Erik Ryde

Agenda

- Data Sources

- Data Gathering and Cleaning Steps

- Analysis

- Conclusion

- Ethical Implications

Data Sources

- Billboard-Hot-100
  - Date
  - Song Name
  - Artists
  - Billboard Score

- Spotify
  - 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

```
Johnnie Ray|6SQKNCUKIWjR1pQ1U3PZZq|['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|0hiq5HixjjN3gtSXLZmnBw|['adult standards', 'cabaret', 'christmas', 'deep adult standards', 'easy listening', 'lounge']
Conway Twitty|7gi3jmwpUpNWdswT8eEprF|['country', 'country gospel', 'country rock', 'cowboy western', 'nashville sound', 'outlaw country', 'traditional country']
Little Richard|4xls23Ye9WR9yy3yYMpAMm|['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|4EYVgfZJ8wKXWmIvCx3gOY|['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|1XQXKciRULT2PXhRUtmmuH|['deep adult standards', 'vocal harmony group']
```

Buckets

Format is: Genre: [Keywords]

```python
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?
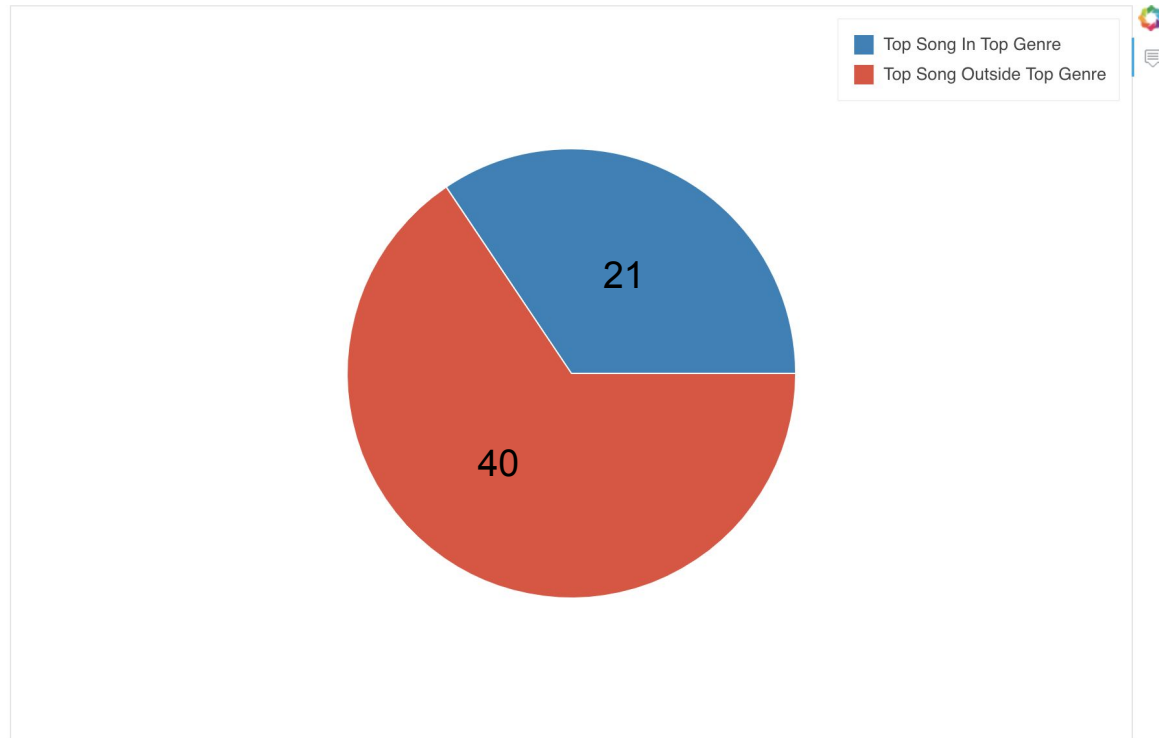
Popularity of Songs / Time

Popularity Score of Each Year's Most Popular Song Over Time
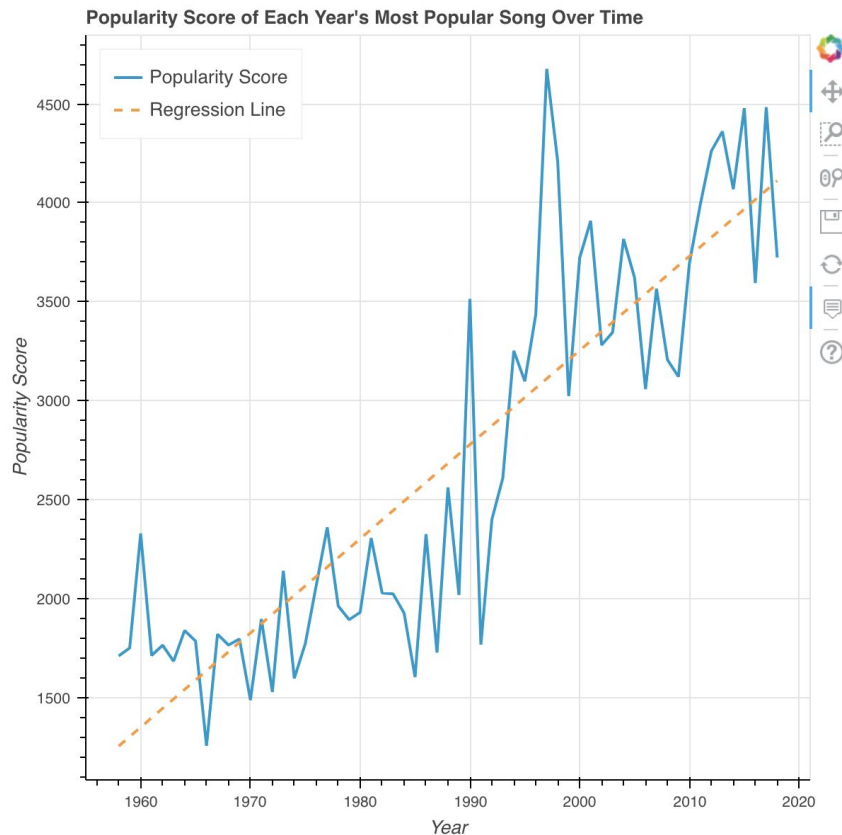
Popularity of Genres / Time

Popularity of Each Genre Over Time
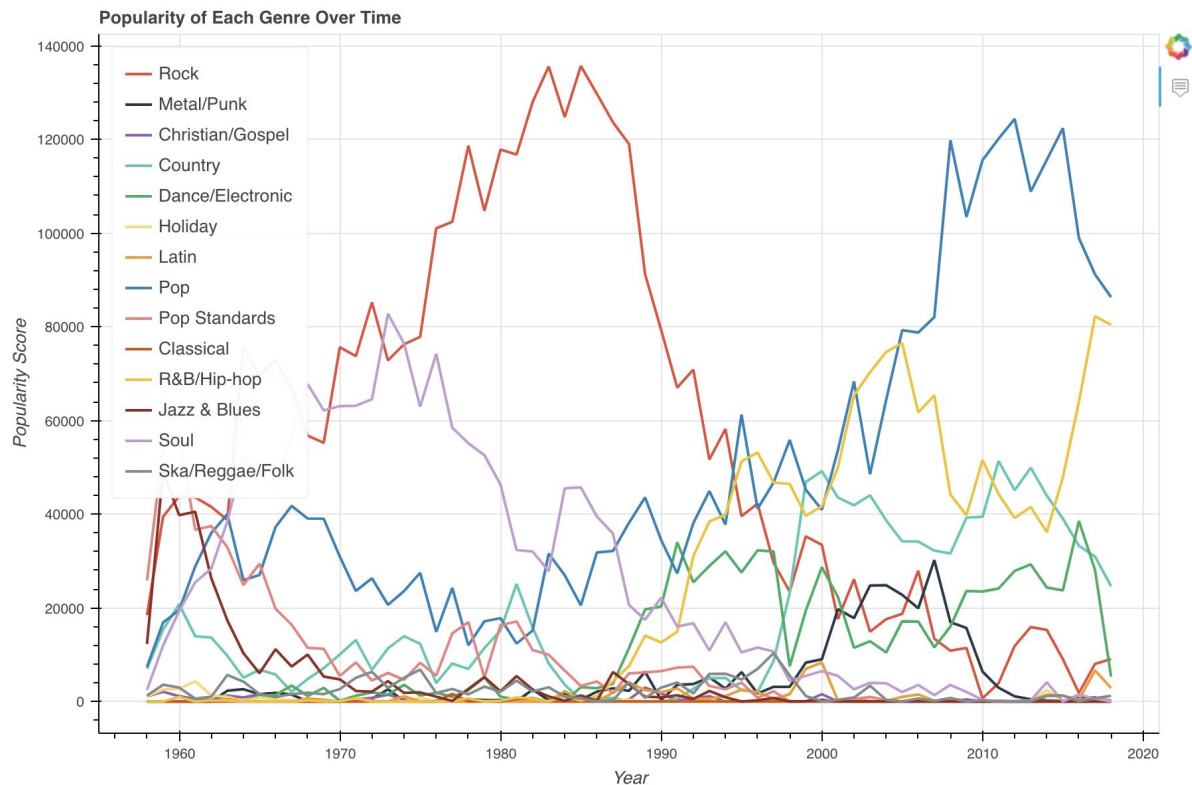
Are Most Popular Songs Always Part of Most Popular Genre?

Frequency of Top Song in the Top Genre

- Top Song In Top Genre
- Top Song Outside Top Genre

21

40

Popular Songs of 2018

2018 Songs

Legend:
- Country
- Dance/Electronic
- R&B/Hip-hop
- Pop
- Rock
- Ska/Reggae/Folk
- Latin
- Pop Standards

Y-axis: *Popularity Score* (0, 1000, 2000, 3000)

X-axis: *Song Release Date* (1/2018, 3/2018, 5/2018, 7/2018, 9/2018, 11/2018)
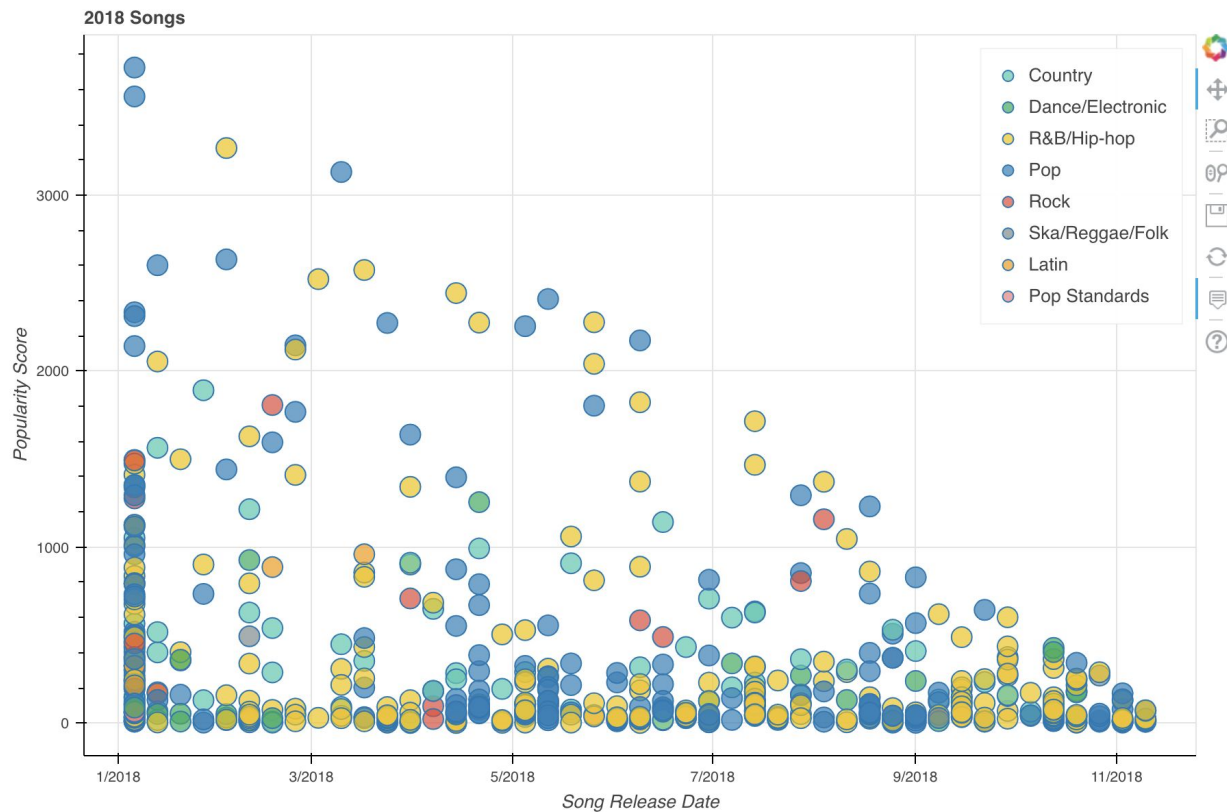
Conclusion

- 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.

Questions?