

# Visualizing Changes in Personal Music Listening Patterns

Using your  Spotify® data

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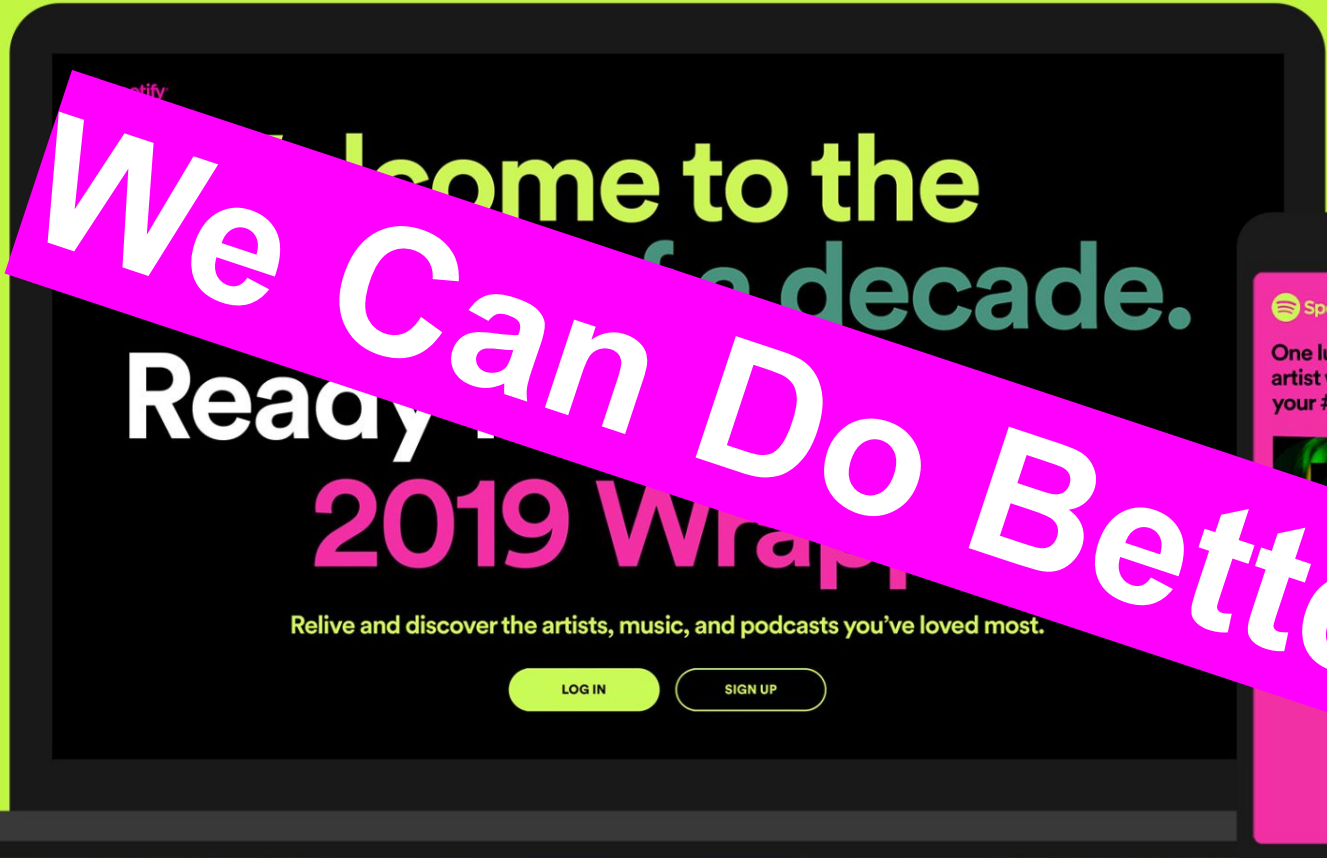
One lucky  
artist was  
your #1.



Billie Eilish



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GET

[/v1/artists/{id}/related-artists](#)

Get an Artist's Related Artists



- GET [/v1/me/top/{type}](#) Get User's Top Artists and Tracks
- GET [/v1/artists/{id}/related-artists](#) Get an Artist's Related Artists



GET [/v1/playlists/{playlist\\_id}/tracks](#) Get a Playlist's Items

GET [/v1/me/top/{type}](#) Get User's Top Artists and Tracks

GET [/v1/artists/{id}/related-artists](#) Get an Artist's Related Artists





GET	<a href="/v1/me/player/recently-played">/v1/me/player/recently-played</a>	Get the Current User's Recently Played Tracks
GET	<a href="/v1/playlists/{playlist_id}/tracks">/v1/playlists/{playlist_id}/tracks</a>	Get a Playlist's Items
GET	<a href="/v1/me/top/{type}">/v1/me/top/{type}</a>	Get User's Top Artists and Tracks
GET	<a href="/v1/artists/{id}/related-artists">/v1/artists/{id}/related-artists</a>	Get an Artist's Related Artists



# Goal

- Retrieve complete Spotify listening history
- Visualize how listening patterns and preferences change over time
- Interactive visualizations that allow users to explore their data

# Ideas

- Changes in genre preference
  - Interactive streamgraph that supports for increase/decrease in level of detail (#genres shown)
  - Could do the same for artists and tracks
- Visualize listening activity over time
  - Interactive: Allow users to zoom in and out, choose time interval, reveal additional details (specific artists or tracks) upon inspection.

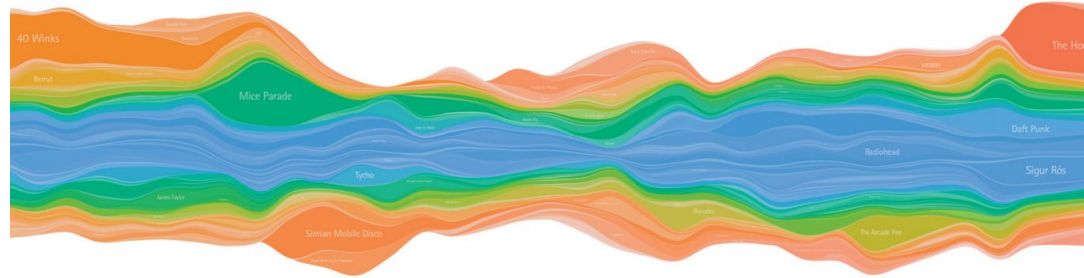
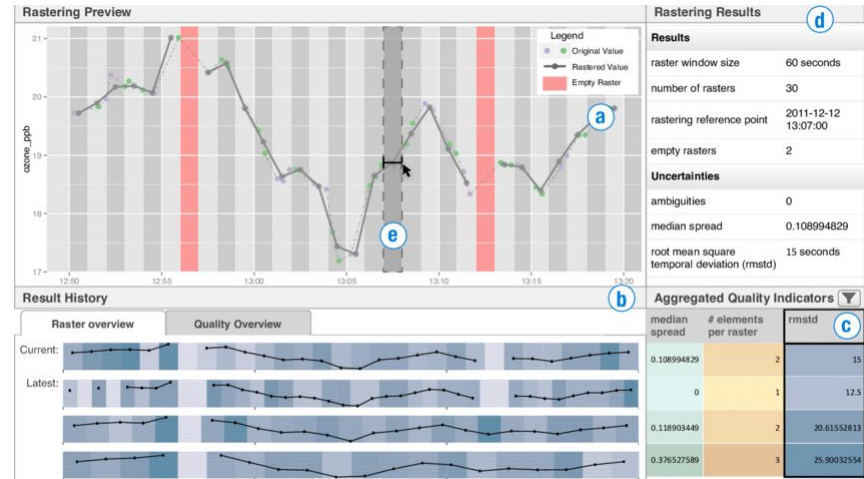


Figure 7.6. Streamgraph of music listening history. From [Byron and Wattenberg 08, Figure 0].

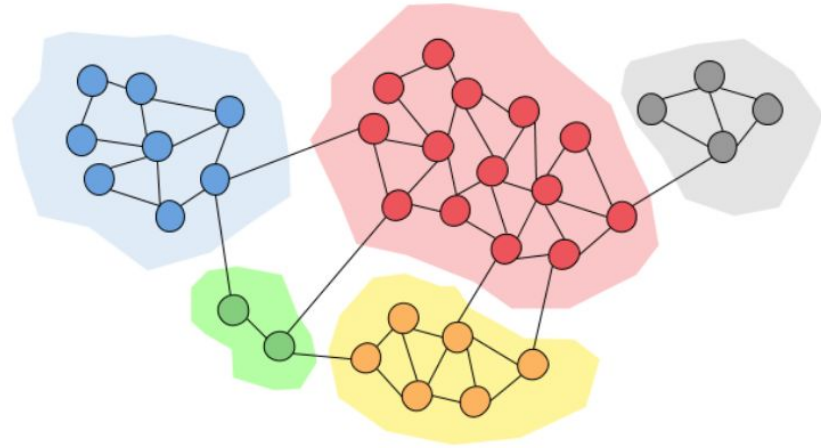


## Ideas 2

- Create “social network” of artists you have listened to.

Edge => a1 is in related artists list of a2.

- Perform community detection.
  - Support interactive community search.
  - Find artists you’ve never listened to who have many related artist occurrences
- 
- How obscure or mainstream are your music preferences?



# Challenges

- Music played at parties, work, through spotify sessions etc. do not reflect personal preferences
- Genre is only granular to the artist level, no data available for tracks
  - Alternative: Gather genre data from last.fm, which has user-provided tags for all songs



- Too much detail – how to aggregate data
  - Group similar (how to judge?) genres
  - Group similar artists?
- Gathering complete history will take time, may have to be an offline procedure
- Spotify may change its API