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Fall IS578
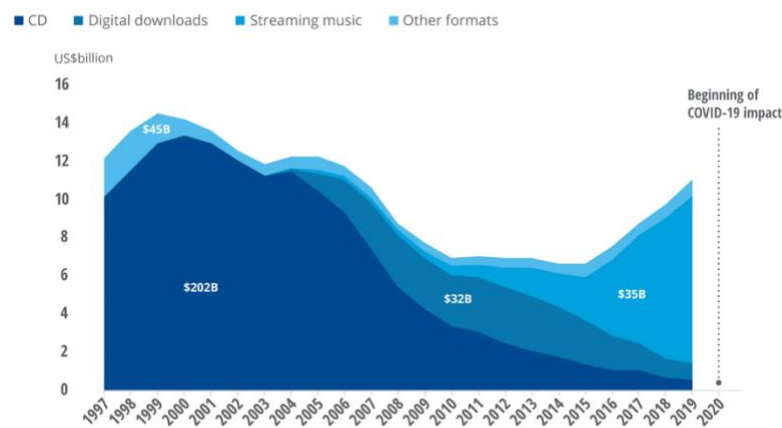Intro to Digital Humanities

Initial Proposal

ABSTRACT

The pandemic struck the industries and people's lives in the U.S. and the world. Due to the changes in people's behaviors, the music industry is experiencing challenges as well. As most concerts and live performances were canceled in 2020, record companies and artists strive into streaming music opportunities, particularly utilizing social media platforms. The pandemic has influenced several genres of music both negatively and positively, according to the 2020 annual report of Billboard.

Therefore, this project aims to observe and compare the changing behavior of the music listeners' by creating a dataset for use. Data will be collected from Billboard monthly charts from January 2019 to the present. Additional data will be collected from Spotify's musical attributes tool and Our World in Data for COVID-19 relevant data. The application for the dataset would be performed in the form of data journalism.

OVERVIEW

The USA along with the world has been suffering from the pandemic since January 2020. The impact of COVID-19 has continuously affected every industry and people's behaviors. The music industry, artists, and listeners are all experiencing an unprecedented time. As the COVID-19 struck the whole nation, proceeding with lockdowns, concerts and live performances were suspended large and small. The losses in live music turned the focus of the record companies and artists to streaming music for financial income.

Recorded music revenues in the United States, by format

■ CD ■ Digital downloads ■ Streaming music ■ Other formats

US$billion

Figure 1: Recorded Music Revenues in the USA, by format

Retrieved from: Deloitte Web Article

Source: Deloitte analysis based on data from the Recording Industry Association of America, US sales database.

Deloitte Insights | deloitte.com/insights

Due to the development of technologies, streaming music becomes a significant channel to access music and shaped a new era from traditional CDs. From 2015 to 2019, the overall recorded music revenues are highly demanded on streaming music (Figure 1). At the beginning of the pandemic, some anticipated growth in streaming music as people spent more time at home and seek for emotional support. Yet, streaming consumption has fallen compared to 2019 with only a 17% increase at the end of 2020. It was considered to be influenced by the change of listeners' activities, including commuting to work and going to the gym. The decline has impacted almost every kind of music, with dance, Latin, and hip- hop/R&B suffering the most.

Despite the 5.7% decline in streaming music, two genres of listeners unexpectedly showed growth during the pandemic and lockdowns: children's music and country. Children's music prompted a 5% increase at the beginning of lockdown and steadily grew afterward. Since all family members spend more time at home, parents and adults played music to keep their away-from-school children entertained. In contrary to other music genres, country music listeners slowly adopted online streaming.

Country music accelerated 21.4% of growth at the beginning of lockdown and 0.6% of growth at the end of 2020.

Although increased at-home activities caused an overall loss in streaming music, they also inspired new playlists for cooking, cleaning, and in-door exercising. The music behavior of people during the pandemic and lockdowns reflects the resilience of people, artists, and record companies at this difficult time.

METHOD

To observe and compare the impact of COVID-19 on music listeners, this project will collect data from 2019 to the present, Q2 2020. Potential data to aggregate to the project's dataset are from Billboard Charts, Spotify website, and COVID-19 cases dataset.

Data of the monthly top streaming songs at Billboard will be collected through web scripting. The attributes include artist names and songs. To get the insight of each song, I will use Spotify Organize Your Music to generate metadata for each song. Examples for the metadata include genre, danceability, loudness, valence, and acoustic. All data will be cleansed and aggregated using python and tableau prep. The project will thus examine COVID-19 cases and deaths on a monthly basis and significant COVID-19 announcements[1], e.g. lockdown, to produce data journalism to observe the changes in music listening behavior.

DATASET

Billboard, Song Breaker

- Source Link: https://www.billboard.com/charts/song-breaker

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[1] AJMC (2021). A Timeline of COVID-19 Developments in 2020. Retrieved from https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020.

- Description:

  Monthly Chart rankings are based on engagement with music-focused content

  on social platforms including, TikTok, Instagram and YouTube.

- Attributes: Ranking, Artist Name, Song Name.

Fig 2: Top 5 of August 2021

Spotify, Organize Your Music

- Source Link: http://organizeyourmusic.playlistmachinery.com/#

- Description:

  This Spotify-generated musical attributes tool provides people to create the

  song datasets themselves. By adding the songs into a collection at Spotify, this

  tool will generate several attributes of the songs in the collection.

- Attributes:

Name	Description
Genre	the genre of the track
Beats Per Minute	The tempo of the song.
Energy	The energy of a song: the higher the value, the more energetic for the song.
Danceability	The higher the value, the easier it is to dance to this song.
Loudness	The higher the value, the louder the song.
Liveness	The higher the value, the more likely the song is a live recording
Valence	The higher the value, the more positive mood for the song.

Length	The duration of the song.
Acousticness	The higher the value the more acoustic the song is.
Speechiness	The higher the value the more spoken word the song contains.
Popularity	The higher the value the more popular the song is.
Duration	The length of the song.

<u>Our World in Data, U.S. COVID-19 cases and death</u>

- Source Link: https://ourworldindata.org/coronavirus/country/united-states

  and GitHub https://github.com/owid/covid-19-data/tree/master/public/data

- Description:

  The COVID-19 data sources of this website are from governments, national and subnational agencies across the world. It is collected and maintained by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU). The dataset was featured in The Lancet in early May 2020 and updated daily on confirmed cases and deaths for all countries.

- Attributes:

  Attributes could be categorized into Confirmed cases, Confirmed deaths, Tests & positivity, Hospital & ICU, Vaccinations and Policy responses.

POTIENTIAL GOAL

It is expected that the aggregated dataset of music behavior could apply in the real world. Potentially, one of the usages for the dataset is to perform in the form of Data journalism. An article or an interactive website will be generated to exhibit the changing behavior of music listeners and the impact of COVID-19. The project will refer to published works on the following websites:

- Fortune & Qlike, The Pandemic Effect on the Fortune: https://qlik.fortune.com

- The Pudding, What Does the Path to Fame Look Like?: https://pudding.cool/2018/10/wiki-breakout/