# **Skate Music Outline**

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### **Outline**

Intro

### Which Artists are Used?

Bubble Chart

### How have genres evolved over time?

· time-series plot

### Which artists tend to be used together?

· searchable chart: type in artist, see who was used most similar

#### Conclude

## Intro

As a young teen, skateboarding was my life. If I wasn't skating, I watching skate videos, discovering not only my new favourite skaters but my new favourite bands. My first skate video, Blind's Video Days, turned me on not only to the indie rock staples Dinosaur Jr. and Husker Du, but to punk legend's Black Flag and Jazz legend John Coltrane.

Music in skate videos was different than what they played on the radio. It spanned all genes. It felt diverse. It felt counterculture. It felt *cool*.

This sentiment is not unique. Since its inception in the 1960s, skateboarding and music have been intrinsically linked. While a diverse array of artists explicitly mention skateboarding in their music (Lupe Fiasco, Avril Lavigne, Machine Gun Kelly, NOFX, FIDLAR) an even larger number reference it as an enduring influence, including Ian Mackeye, Ben Harper, Jeff Ament, Yelawolf, Tom Delonge, Pharell Williams, James Hetfield, Matt & KimDevendra Banhart, Tyler the Creator, Lil Wayne, Coconut Records and Flogging Molly referencing skateboarding as an influence.

What do all of the groups above have in common? At some point, some (or all) members of their group were skateboarders.

Thus, it's clear that skate video music is a sort of powerhouse playlist of influence. What is this playlist composed of? And how has it changed over time?

Naturally, I think this piece lends itself to be more exploratory than analytical.

## **Data**

Data was obtained from skatevideosite.com, a website that retains information for every skate video released.

```
In [2]: suppressMessages(library(tidyverse))
  DATA_PATH <- '/Users/jared/Desktop/skateboard_data2.csv'
  df <- suppressMessages(read_csv(DATA_PATH))
  df$index <- NULL</pre>
```

#### Data Caveats

Skate-videos really took off as a thing in the 90s, and there's not a lot of data for videos in the 80s at all. Moreover, most videos in the 80s used songs from local punk bands.

I want to include as much 80's data as possible, as doing so will reveal the large influence punk had at the time. I think starting from 1989 will be sufficient to show this trend. I can manually enter data for some videos from 1989 to bring the count up.

## **Overall look at Artists/Genres Used**

So which artists make up this early tastemaker, and from what genres do they come from?

**Plot Idea**: I can't prototype this plot in R, but I'd like to use a more refined version of the bubble chart I used earlier. Aside from an overall improvement in the aesthetic, it could include an artist's image, sound-bite link, and an informational tool-tip.

- toggle option 1: Artist nodes organized by 'broad' genre
- toggle option 2: Artist nodes organized by year used
- possible toggle option 3: All nodes equi-sized and form waffle chart to show more detailed genre distribution

Each view of the data should include a unique paragraph and annotations for interesting observations

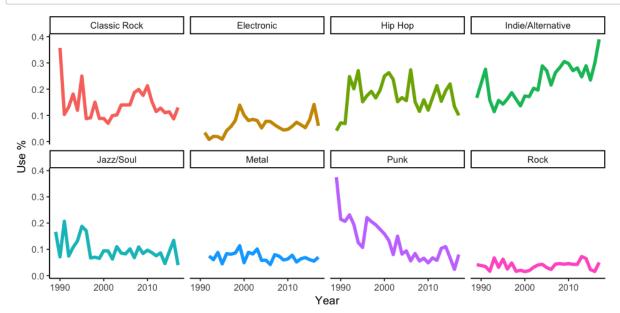
## **How Genre Has Evolved Over Time**

Skateboarding has gone through several major shifts over time. From the dogtown era of the 70s, to the vert skating of the 80s, to the 'big pants, little wheels' of the 90s, all the way up to the style-centric focus today, skateboarding has evolved with the times.

As part of this cultural revolution, the music in skateboarding has changed too.

**Plot Idea**: Scroller: Show time-series evolve over time, with annotations. End of scrolling should end on searchable plot: Type artist and see songs used over time.

```
In [3]: # Load data created from clean genre script.R
        df <- suppressMessages(read csv('~/Desktop/cleaned skatedata.csv'))</pre>
        time df <- df \%>%
           select(genre, year) %>%
          filter(year > 1988) %>%
          group_by(year) %>%
          mutate(year_cnt = n()) %>%
          ungroup() %>%
          group_by(genre, year, year_cnt) %>%
          summarise(gen_cnt = n()) %>%
          ungroup() %>%
          group_by(genre, year) %>%
          summarise(genre_pct = gen_cnt / year_cnt) %>%
          ungroup() %>%
          arrange(year)
        options(repr.plot.width=8, repr.plot.height=4)
        time_df %>%
        filter(!(genre %in% c('Other')),
              !is.na(genre)) %>%
        ggplot(aes(x=year, y = genre_pct, color=genre)) +
          geom_line(lwd=1.5) +
          facet wrap(~genre, nrow = 2) +
            theme_classic() +
            theme(legend.position="none") +
            xlab('Year') +
            ylab('Use %')
```

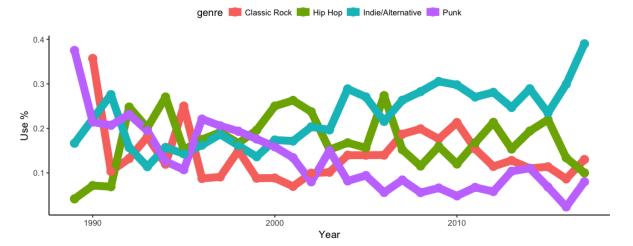


#### **Observations**

- Early skate-videos used a lot of Punk Rock. Over time, this consistently decreased.
- Perhaps the replacement of Punk music with Hip Hop in skate videos contributed to the current 'punk' reputation of some Hip Hop?
- · Electronic, Rock and Metal are not used often.
- · Begininng wirth the early 90's, Hip Hop was consistently used in skate videos
- Indie & Alternative music took off in the mid 90s, and has dominated ever since.
- The (relatively) heavy use of Classic Rock is surprising, while the dominance of Hip Hop and Indie/Alternative are not.

```
In [4]: options(repr.plot.width=9, repr.plot.height=4)
    time_df %>%
        filter(genre %in% c('Indie/Alternative', 'Punk', 'Hip Hop', 'Classic Rock'
)) %>%
        ggplot(aes(x=year, y = genre_pct, color=genre)) +
            geom_line(lwd=4) +
        geom_point(lwd=4) +
        labs(title="Time-Series For Most Popular Genres") +
            theme_classic() +
            theme(legend.position = 'top') +
            xlab('Year') +
            ylab('Use %')
```

Time-Series For Most Popular Genres



# **Come Together**

Which artists tend to be used together?

### Methodolgy:

- For each artist, create a bag of words embedding, but instead of words, use skate videos.
- Then, do tf-idf on these embeddings. (note maybe it's better to use just the raw count, as opposed to tf\_idf weight, the interpretation of inverse document frequency in this case may overweight rare terms (although subsetting out artists that don't meet some threshold of use could account for that)
- Finally, use cosine similarity to measure artist similarity.
- Caveat: Article should include a brief caveat that the above is an NLP method and, while it works here, may violate some unaccounted for assumptions.

**Plot Idea**: Searchable - Type in Artist, see who was similar. (Maybe top 10 similarities, top 10 dissimilarities?). Plot can be a diverging dot plot or radial column chart.

```
In [5]: library(tidytext)
         library(widyr)
         DATA_PATH <- '~/Desktop/cleaned_skatedata.csv'
         df <- suppressMessages(read csv(DATA PATH))</pre>
         multiplot <- function(..., plotlist=NULL, file, cols=1, layout=NULL) {</pre>
           library(grid)
           plots <- c(list(...), plotlist)</pre>
           numPlots = length(plots)
           if (is.null(layout)) {
             layout <- matrix(seq(1, cols * ceiling(numPlots/cols)),</pre>
                             ncol = cols, nrow = ceiling(numPlots/cols))
          if (numPlots==1) {
             print(plots[[1]])
           } else {
             grid.newpage()
             pushViewport(viewport(layout = grid.layout(nrow(layout), ncol(layout))))
             for (i in 1:numPlots) {
               matchidx <- as.data.frame(which(layout == i, arr.ind = TRUE))</pre>
               print(plots[[i]], vp = viewport(layout.pos.row = matchidx$row,
                                                layout.pos.col = matchidx$col))
             }
           }
         }
         plot_art_sims <- function(artist_name) {</pre>
             df %>%
           select(video, artist) %>%
           filter(!is.na(video),
                  !(artist %in% c('?'))) %>%
             group by(artist) %>%
         mutate(cnt = n()) %>%
         filter(cnt > 4) %>%
         ungroup() %>%
           arrange(artist) %>%
           count(artist, video) %>%
           bind tf idf(artist, video, n) %>%
           ungroup() %>%
           pairwise_similarity(artist, video, n) %>%
           arrange(desc(similarity)) %>%
           filter(item1 == artist name) %>%
           top n(12)%>%
           ggplot(aes(x=reorder(item2, similarity), y=similarity)) +
           geom col(fill='coral') +
           labs(x = "Artists", y = "Similarity", title = paste("Artists Often Used Wit
         h", artist name)) +
           coord_flip() +
           theme minimal() +
           theme(legend.position = 'none')
         }
```

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```
In [6]: options(repr.plot.width=11, repr.plot.height=10)
              p1 <- plot_art_sims('Sonic Youth')</pre>
              p2 <- plot_art_sims('Devendra Banhart')</pre>
              p3 <- plot art sims('2Pac')
              p4 <- plot_art_sims('The Smiths')</pre>
              p5 <- plot_art_sims('The Beatles')</pre>
              p6 <- plot_art_sims('CKY')</pre>
              multiplot(p1,p2,p3,p4,p5,p6, cols=2)
              Selecting by similarity
                           Artists Often Used With Sonic Youth
                                                                                                  Artists Often Used With The Smiths
                  Joy Division
                                                                                         The Strokes
                     No Age
                                                                                    Mark Mothersbaugh
                                                                                         Johnny Cash
                   7 Seconds
                                                                                           The Hives
                 Squarepusher
                                                                                             Oasis
                    Autechre
                                                                                             Metric
                   Mazzy Star
                                                                                          Radiohead
                       Tool
                                                                                           Morrissev
                   Pink Floyd
                                                                                  The Velvet Underground
                    The Jam
                                                                                           The Clash
                   The Hives
                                                                                              Moby
                 James Brown
                                                                                          The Doors
                           0.00
                                                 0.10
                                                                                                   0.0
                                                                                                                                       0.3
                                      0.05
                                                            0.15
                                                                       0.20
                                                 Similarity
                                                                                                                     Similarity
                                      Artists Often Used With Devendra Banhart
                                                                                                 Artists Often Used With The Beatles
                                                                                   Peter Bjorn and John
                       Peter Biorn and John
                                                                                            Sweet
                 The Brian Jonestown Massacre
                                                                                            Dr. Dre
                           The Concretes
                                                                                          Pink Floyd
                                                                                         Isaac Hayes
                              The Kinks
                             Janis Joplin
                                                                                              Nas
                            Roky Erickson
                                                                                              Kiss
                             Group Home
                                                                                      The Guess Who
                            Cold War Kids
                                                                                          The Kinks
                               The Knife
                                                                                         Gravediggaz
                          The Grass Roots
                                                                                         Method Man
                             Gary Numan
                                                                                  Sly & The Family Stone
                                                                                                                                             0.3
                                                      Similarity
                                                                                                                    Similarity
                            Artists Often Used With 2Pac
                                                                                            Artists Often Used With CKY
                  Curtis Mayfield
                                                                                         нім
                                                                                        DMX
                    Isaac Hayes
                       N.W.A.
                                                                                        Bjork
                 Jedi Mind Tricks
                                                                                       Moby
                 Bums With Guns
                   James Brown
                                                                                     Van Halen
                                                                                      GG Allin
                         Nas
                   Gravediggaz
                                                                                    Jethro Tull
                     The Game
                                                                                      Nobody
                   Tha Federalz
                                                                                      Billy Idol
                  Roky Erickson
                                                                                  Guns N' Roses
```

Janis Joplin

0.00

0.05

Similarity

0.10

0.2

Similarity

Snoop Dogg

0.0

Part of the beauty of skateboarding is it's longstanding acceptance of diversity. This is reflected in the music as well. A video that uses The Beatles is just as likely to include a track by Pink Floyd as it is a track from Dr. Dre.

That said, videos generally adhere to a paricular vibe/aesthetic, and artists tend to be used with artists from similar genres. For example, skate videos that include music from The Smiths often feature other alternative bands from the U.K. including Morrissey, the lead singer of The Smiths. Videos that feature Tupac often include other Hip Hop artists.

Mention how/if this is similar to the previous time-series analysis, which saw certain time periods favoring some genres over others.

## **Conclusion of Article**

End article.

Maybe mention the gradual decrease in skate-videos (see distribution below). Where to find the next cool music moving forward?

```
xtabs(~df$year)
In [4]:
         df$year
         1985 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 20
         02
            1
                     24
                           14
                                    121
                                         149
                                              159
                                                    112
                                                         240
                                                              210
                                                                    186
                                                                         355
                                                                              328
         14
         2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
                    788 1072 1145 1257 1061 1076
               537
                                                   891
                                                         637
                                                              579
                                                                    263
                                                                         132
                                                                              127
                                                                                    100
```