

CHIRPING STARS

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ABSTRACT

Chirping Stars is a tape piece made of the sonification of Twitter data. A snapshot of the popularity of musicians, randomly drawn in March 2012, yielded eight of the most popular stars at that time. Data of their Twitter followers shows the involvement of rapidly evolving fans of the artists on social media. The sonic interpretation of this development is created by mapping the data to parameters that modulate and re-synthesize the sound tracks of the artists.

1. INTRODUCTION

The social networking service Twitter was launched in July 2006 and has currently over 300 million users, generating over 300 million tweets and handling over 1.6 billion search queries per day [1]. Twitter has become increasingly important for the marketing of musicians. The number of tweets containing the artist's or band's name or the number of their followers on Twitter give an accurate and immediate number for their popularity – events like the release of a new album or the naming of a new-born celebrity baby are responded instantly by the Twitter community.

MusicMetric [2] is one online platform providing network data on musics, e.g., time series of total downloads or fans, taken from different social networks (Twitter, Facebook, MySpace, Soundcloud and others). The data of 1000 artists can be accessed via API commands. The provided data allow to analyze different aspects of the fast moving music market.

We chose to display the development of eight artists, that were among the 'top ten' (or rather, top 13, see below) artists worldwide in March 13th, 2012, and see how their career developed as reflected by Twitter. To find the actual music trends, we used the suggested API of Twitter Music Trends [3]. Pieces of the artists themselves, their major hits on YouTube, are processed depending on the data of artist's development. The resulting sound changes the simple music pieces into a noisy world-wide radio show.

2. DATA COLLECTION

2.1. Artists

We found the following eight artists within the top-13¹ of March 13th, 2012:

Bruno Mars (TwitterID 100220864, @brunomars): Twitter fan data available from: Sat Nov 28 2009 01:00:00 GMT+0100 (CET)

¹The requested data was not available for the top-10, therefore some artists have been left out.

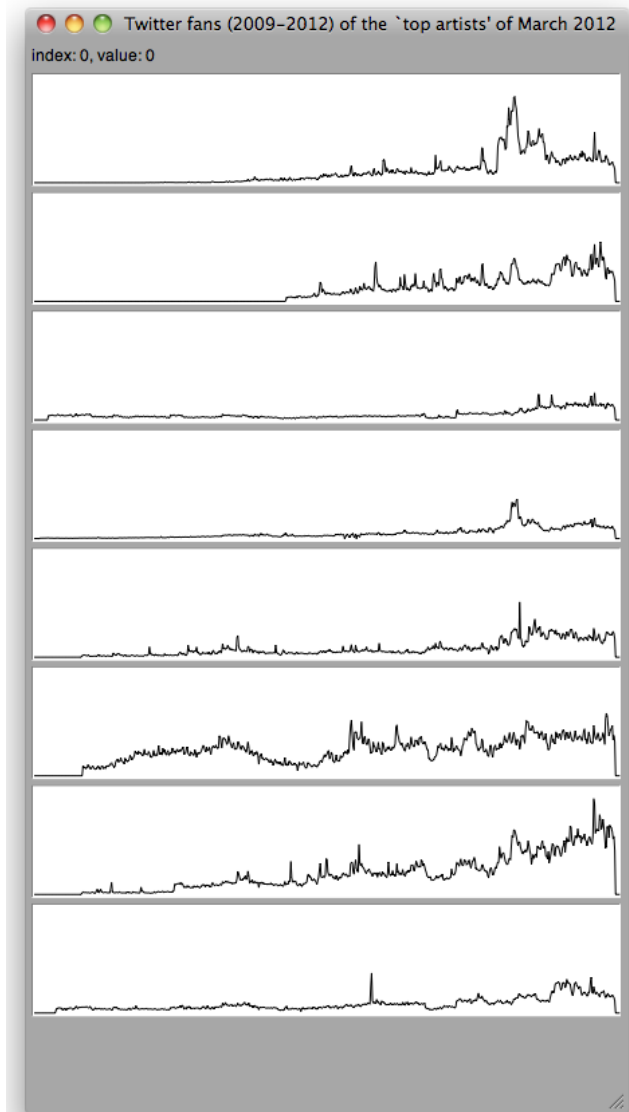


Figure 1: Number of fans on Twitter (followers) for eight artists/bands until 13th of March 2012. (The sudden onset/offset at the beginning of the data set is due to readout issues and not part of the original data sets.)

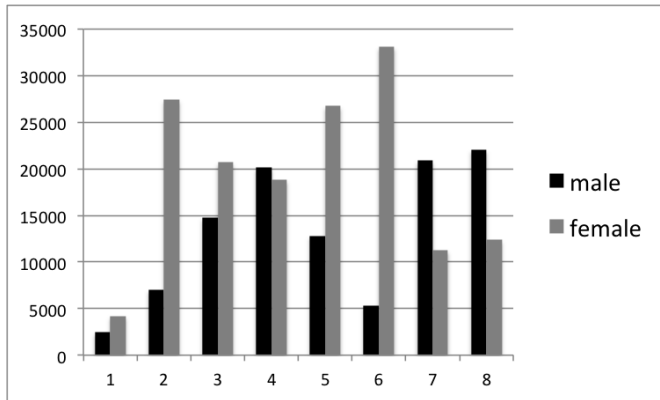


Figure 2: Number of male and female fans on Myspace of the eight artists.

Chris Brown (TwitterID 119509520, @chrisbrown): Twitter fan data available from: Tue Aug 11 2009 02:00:00 GMT+0200 (CEST)

Coldplay (TwitterID 18863815, @coldplay): Twitter fan data available from: Tue Aug 11 2009 02:00:00 GMT+0200 (CEST)

David Guetta (TwitterID 23976386, @davidguetta): Twitter fan data available from: Tue Aug 11 2009 02:00:00 GMT+0200 (CEST)

Drake (TwitterID 27195114, @Drake): Twitter fan data available from: Sat Sep 19 2009 02:00:00 GMT+0200 (CEST)

Justin Bieber (TwitterID 27260086, @Justinbieber): Twitter fan data available from: Wed Nov 25 2009 01:00:00 GMT+0100 (CET)

Rihanna (TwitterID 79293791, @rihanna): Twitter fan data available from: Tue Aug 11 2009 02:00:00 GMT+0200 (CEST)

Snoop Dogg (TwitterID 3004231, @snoopdogg): Twitter fan data available from: Tue Dec 15 2009 01:00:00 GMT+0100 (CET)

Omitted artists (due to missing data) among the top 13: Talor Swift (@Talorswift: 30391175), Lil Wayne (@Lilwayne: 244337185), Adult (@adult : 6224272), Kiss (@kissonline: 22549812) and Wiz Khalifa (@realwizkhalifa: 20322929).

2.2. Data from MusicMetric

We chose to download three different data sets of these artists from MusicMetric: First, the fans (i.e., followers) of the artists on Twitter. Fig. 1 shows the time series of the above artists/ bands from their appearance (some time in 2009) to 13th of March 2012, for a total of 875 days. Different patterns can be found. Many of the stars of that day only became prominent during the last year or so. Sudden outbursts reflect concert dates, CD releases or similar. Due to the chosen data set, the whole sound scene develops to a climax of the presence time.

Second, we gathered information about the gender of the fans, collected as given in specific Myspace fan profiles (see Fig.2).

Third, the location of the fans, collected as downloads of bit-torrent files from cities all over the world (see Fig.3).

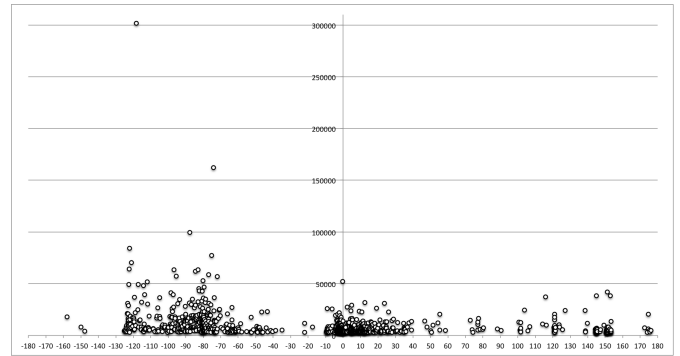


Figure 3: An example of download activity of files associated with *SnoopDogg*, depicted as number of downloads at a certain longitude between -180 and 180 degrees.

3. GLOBAL TWITTER RADIO SHOW

The basic analogy is a global twitter radio show. The sounds are distributed around the listener, who is situated at the Greenwich meridian. From the location data, we use the position of downloads for playing the sound files from various locations, allowing the listener to explore the mainstream music taste in different regions of the world. Gender information is used to filter the sound.

The radio show plays the songs of the above stars in parallel, depending on the data sets. Two sonification approaches were pursued. First, granular synthesis serves as a tool where the sound can be well shaped to produce thumbnail patterns and reveal specific information on the data.

Using simple granulation techniques on the data, we obtain a variety of interesting timbres and textures. Gap size, grain size, amplitude, and the random spread of the grains are controlled by the data. Where the number of followers are higher, the samples are played back as recognizable parts of the songs.

Second, we use the data to modulate the original sound file of the artist's song, changing the rate of reading out the sound file which is thus distorted. Here, also the pitch of the tracks is changed, creating a playful, sometimes ironic sound out of the tracks.

4. ACKNOWLEDGMENT

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5. REFERENCES

- [1] <http://en.wikipedia.org/wiki/Twitter>, access: 12/03/15
- [2] <http://developer.musicmetric.com>, access: 12/03/15
- [3] <http://twittermusicrends.com>, access: 12/03/13