

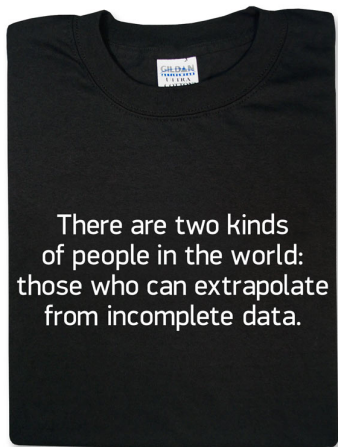
Tools for *Music Informatics*

Christophe Rhodes

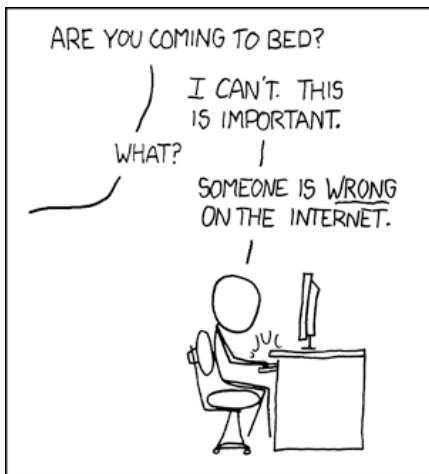
12th February 2014



Disclaimers



<http://www.thinkgeek.com/product/15cc/>



<https://xkcd.com/386/>



Feature Extraction

Moonlight Sonata

Sonate No. 14, "Moonlight"

1st Movement
Opus 27 No. 2

Ludwig van Beethoven
(1770 - 1827)

Adagio sostenuto
Si deve suonare tutto questo pezzo delicatissimamente e senza sordini

sempre pianissimo e senza sordini

0

4

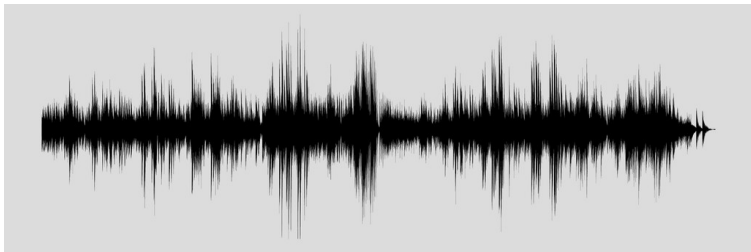
pp

<http://musescore.com/user/19710/scores/55352>



Feature Extraction

Moonlight Sonata

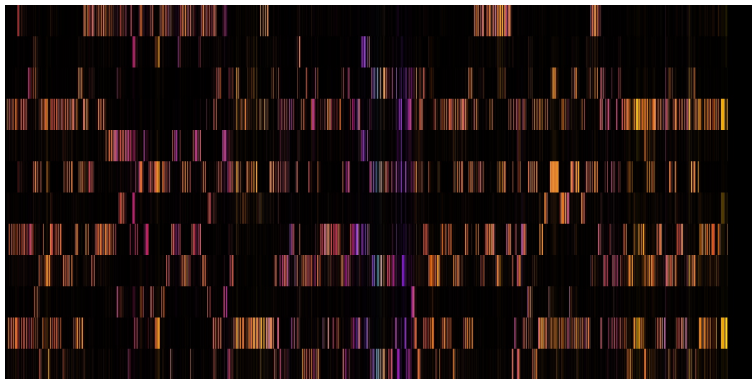


<http://waveformartwork.com/collections/moonlight-sonata>



Feature Extraction

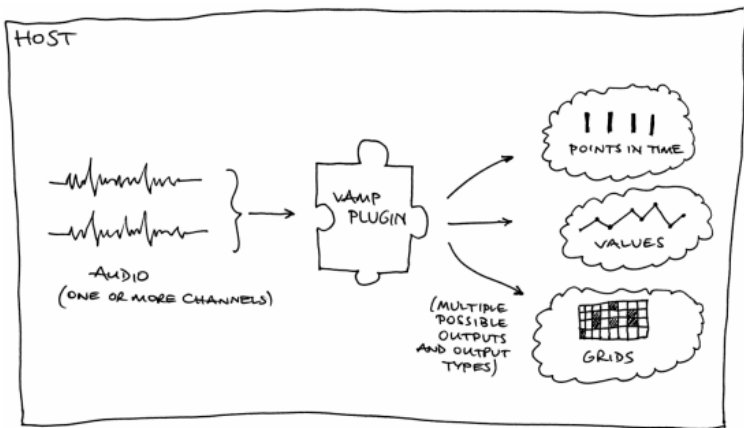
Moonlight Sonata



Anita Lillie, http://www.flyingpudding.com/projects/viz_music/images/1200/moonlight_sonata.jpg



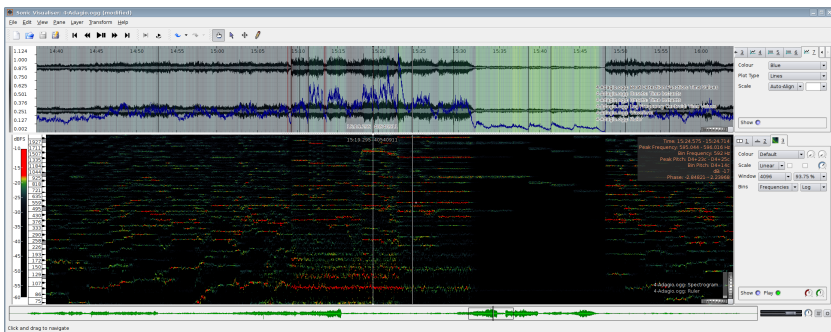
Sonic Visualiser and VAMP



Chris Cannam *et al.*, <http://vamp-plugins.org/>



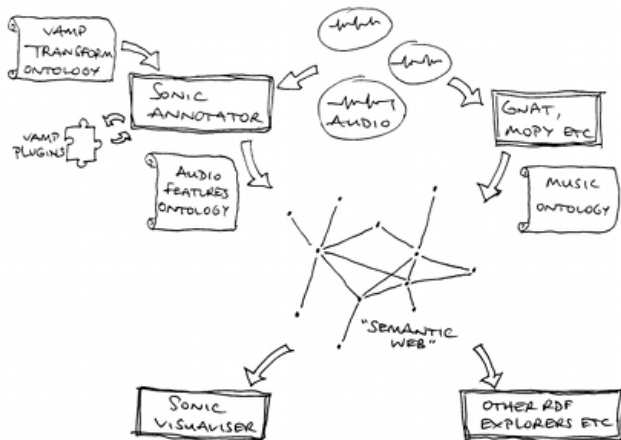
Sonic Visualiser and VAMP



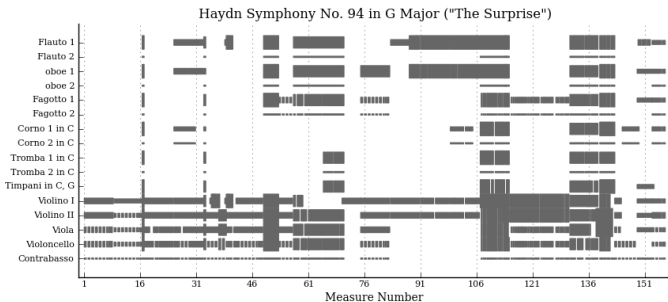
Chris Cannam *et al.*, <http://www.sonicvisualiser.org/>



Sonic Annotator



Chris Cannam et al., *Linked Data and You: Bringing music research software into the Semantic Web*, JNMR (2010)



Michael Cuthbert and Christopher Ariza, *music21 Documentation*



Other feature extractors

- Essentia: <http://essentia.upf.edu/>
- Humdrum: <http://http://humdrum.ccarh.org/>
- IDyOM:
<https://code.soundsoftware.ac.uk/projects/idyom-project>
- Marsyas: <http://marsyas.info>



Parsons Code

```
Parsons$ ./contour *RUURDDDDRUURDR
```



```
Parsons$ █
```

Denys Parsons, *The Directory of Classical Themes* (1975)



Simile

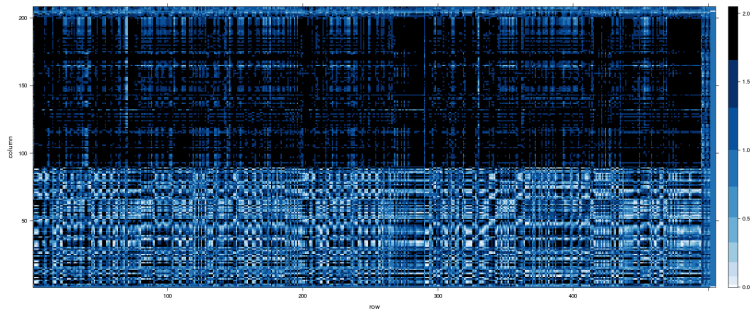


Klaus Frieler and Frank Riedemann, *Is independent (re)creation likely to happen in pop music?*, ESCOM (2009)

related: MelodyShape

<https://github.com/julian-urbano/MelodyShape>

Julian Urbano *et al.*, *Melodic Similarity through Shape Similarity*, 2011

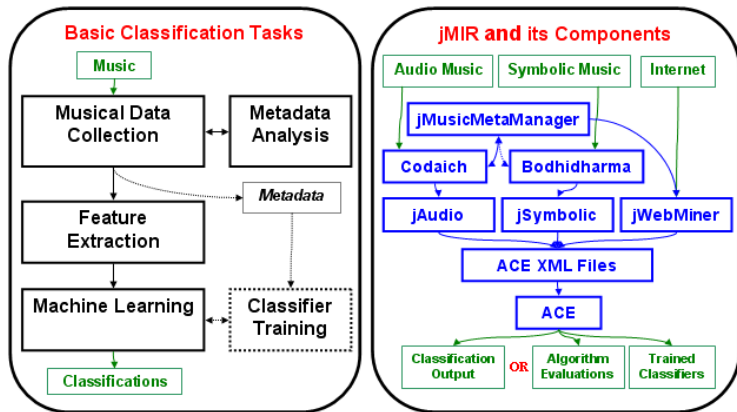


Michael Casey *et al.*, *Analysis of Minimum Distances in High-Dimensional Musical Spaces*, TASLP (2008)



Mark Hall *et al.*, *The WEKA Data Mining Software: An Update*,
SIGKDD Explorations (2009)

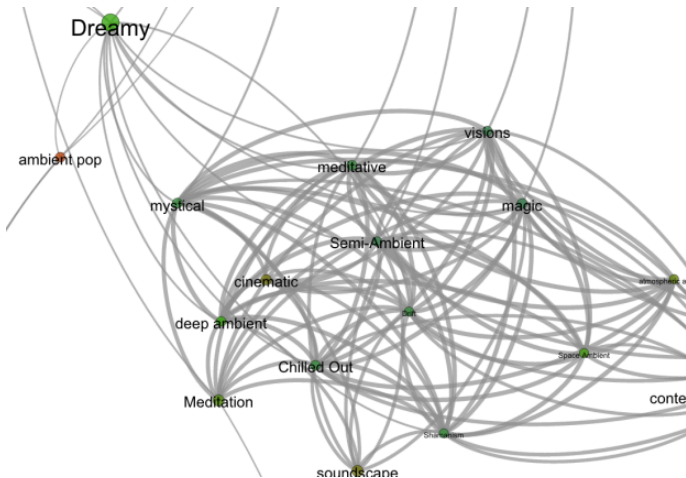
Rebecca Fiebrink *et al.*, *Human model evaluation in interactive
supervised learning*, SIGCHI (2011)



Cory McKay, *Automatic music classification with jMIR*, 2010



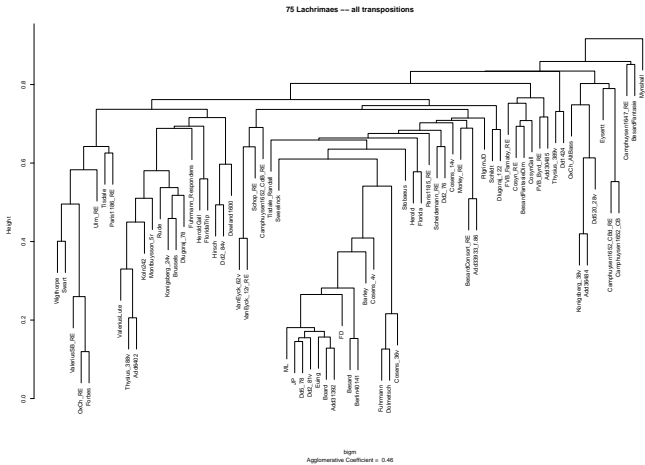
Map of Music Styles



Paul Lamere, <http://static.echonest.com/playlist/moms/>
Justin Donaldson and Paul Lamere, *Using Visualisations for Music Discovery*, ISMIR (2009)



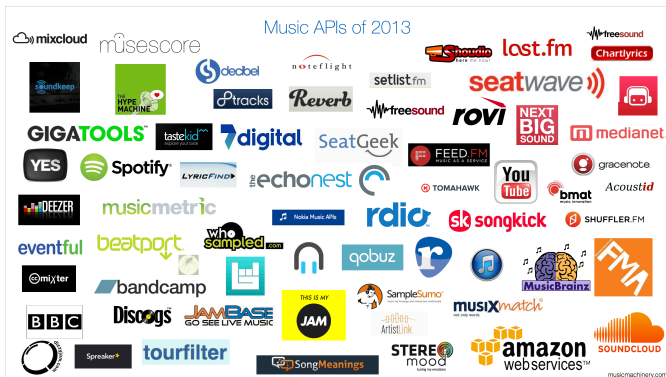
Lachrymae



David Lewis, *Using computers to explore Dowland's Lachrymae*, Dowland Conference (2013)



APIs

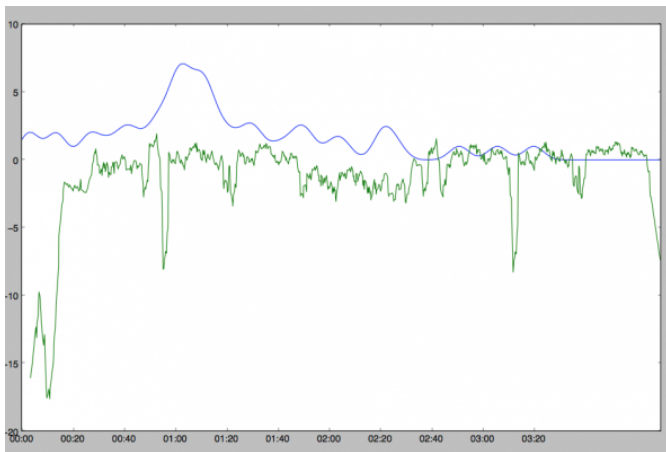


Paul Lamere, <http://musicmachinery.com/music-apis/>



APIs

Dubstep and the “drop”



Nicola Montecchio, reported in `evolver.fm`, January 2014



Where to go for more

- Sound Software: <http://code.soundsoftware.ac.uk/>
- ISMIR: <http://ismir.net/> (incl. MIREX)
- Individual lab pages:
 - MTG: <http://mtg.upf.edu/>
 - LabRosa: <http://labrosa.ee.columbia.edu/>
 - C4DM: <http://c4dm.eecs.qmul.ac.uk/>