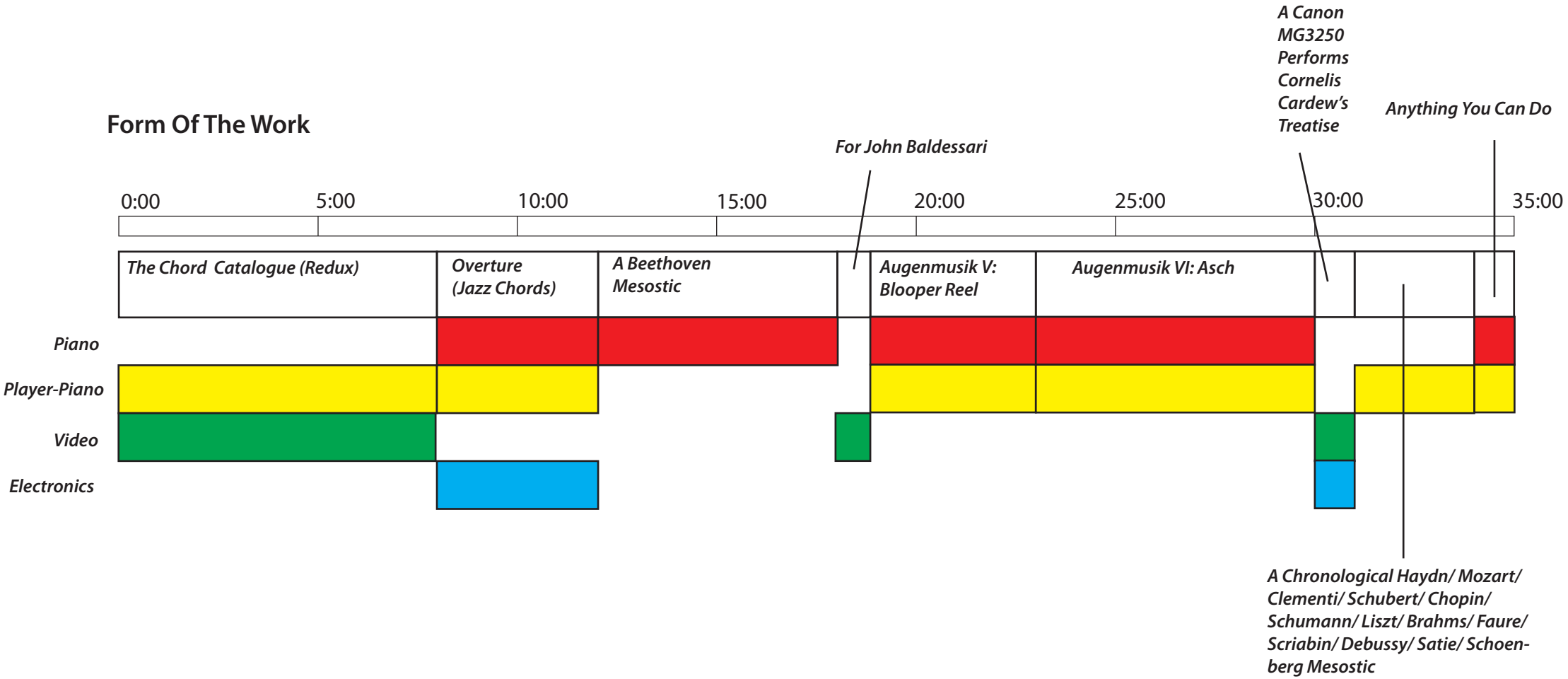
I Can Do Better

for piano, player-piano, video & electronics
duration: 35mins

David Pocknee (composition/concept) & Ana Smaragda Lemnaru (visuals/concept) & Leo Svirsky (pianist/concept)

Form Of The Work

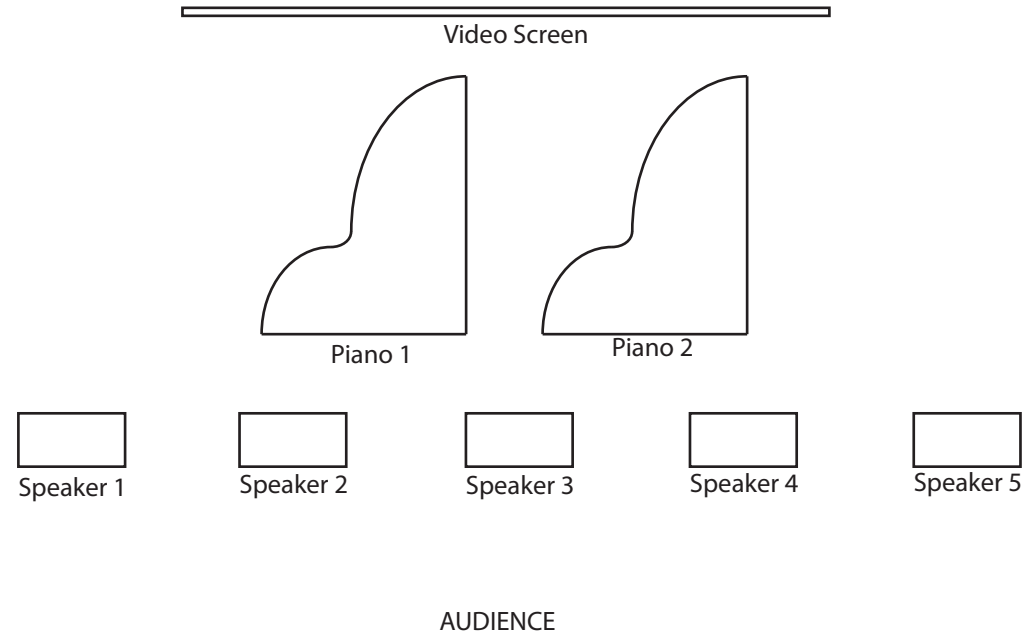


I Can Do Better is a work that currently consists of nine sections for different combinations of live pianist, player-piano, video and electronics.
All of the sections follow each other with a small pause that is long enough to indicate a formal division, but not long enough to elicit applause.
The work was first performed in Phipps Hall, Huddersfield University on 25 October 2015.
The player piano used was Winfried Ritsch's RHEA system.

Instrumentation

Player Piano - for the opening "Chord Catalogue (Redux)", not all player-pianos will be suitable.
The piece requires a player piano which is capable of playing all 88 keys simultaneously, an action not possible, for example, with the Yamaha Disclavier system.

LAYOUT



Description Of Pieces

1. ***The Chord Catalogue (Redux)*** - 8mins
for Jeremiah Runnels and Louis D'Heudieres
An expanded version of Tom Johnson's The Chord Catalogue

2. ***Overture (Jazz Chords)*** - 3mins

3. ***A Beethoven Mesostic*** - 6mins
A musical mesostic created from collaging parts of Beethoven's 32 piano sonatas, using a five octave ascending chromatic scale as a cantus firmus.

4. ***For John Baldessari*** - 1min

5. ***Augenmusic V: Blooper Reel*** - 4mins

6. ***Augenmusik VI: Asch*** - 7mins

7. ***A Canon MG3250 Performs Cornelis Cardew's Treatise*** - 1min

8. ***A Chronological Haydn/ Mozart/ Clementi/ Schubert/ Chopin/ Schumann/ Liszt/ Brahms/ Faure/ Scriabin/ Debussy/ Satie/ Schoenberg Mesostic*** - 3mins
Another musical mesostic chronologically moving through 294 pieces by the composers listed in the title.

9. ***Anything You Can Do*** - 1min
for Annie and her gun

1. ***The Chord Catalogue (Redux)*** - 8mins
for Jeremiah Runnels and Louis D'Heudieres

icdb_2015-11-04_01_chord-catalogue.mp4

Video

The Chord Catalogue (Redux)

for Jeremiah Runnels & Louis d'Heudieres

Tom Johnson's ***Chord Catalogue*** for solo piano was written in 1986.

It consists of every chord of between 2-13 notes, possible within the 13 notes of an octave, in order.

The work is an early example of "Completism", an artistic methodology which is characterised by the systematic exhaustion of all combinatoric possibilities provided by a fixed and finite set of discrete variables.

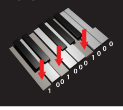
It can also be considered as one of the first "brute force attacks" on New Music harmony.

In cryptology, a "brute force attack" is a way of obtaining a key by systematically exhausting all combinatorial possibilities of a keyspace.

Player-Piano

Video

To calculate the keyspace of all 13 notes in an octave, we can consider the piano as a 13bit binary string, in which keys can be either on (1) or off (0).



Therefore, the number of possible chords in an octave is 2^{13}.

2^{13} = 8192
- 13 single-note combinations
- 1 combination in which no notes are playing

= 8178

However, there are more than 13 keys on a piano.

Therefore, we might imagine an expanded Chord Catalogue in which all chords made from all possible combinations of 88 keys are used.

This is what the start of this piece would sound like.

Player-Piano

icdb_2015-11-04_01a_chord-catalogue.mid

1. ***The Chord Catalogue (Redux)*** - 8mins

for Jeremiah Runnels and Louis D'Heudieres

Video

The number of possible chords on the piano can be calculated by conceiving of the keyboard as an 88bit binary string.

This would mean that the number of possible chords is 2^{88} .

2^{88} = 309485009821345068724781056
- 88 single-note combinations
- 1 combination in which no notes are playing

= 309485009821345068724780967
= 3.09×10^{27} (309 Septillion)

The piano is currently playing 32nd-notes at quarter-note = 60 (eight notes a second).

If the piano kept playing at this pace, to complete this new version of the ***Chord Catalogue*** it would take...

309485009821345068724780967
/ 8
= 38685626227668133590597620 seconds
/ 60
= 644760437127802226509960 hours
/ 24
= 26865018213658426104581 days
/ 365
= 73602789626461441382 years
= 73.6×10^{18}
= 73.6 quintillion years.

Player-Piano

Video

Current estimates put the age of the universe at 13.82 billion years (or 13.82×10^{9}).

This means that not only would it not be possible to listen to every chord the piano can produce within our lifetime, but within that of our entire species, and possibly within the existence of our universe.

Let us imagine that what you are hearing is the start of a piece that lasts for 73 quintillion years.

Let us fast forward to hear the piece at different points in the future...

Player-Piano

icdb_2015-11-04_01b_chord-catalogue.mid

2. ***Overture (Jazz Chords)*** - 3mins

Live Piano	icdb_2015-11-04_02_overture.pdf
Player-Piano	icdb_2015-11-04_02_overture.mid
Speaker 1	icdb_2015-11-04_02_overture-spk1.wav
Speaker 2	icdb_2015-11-04_02_overture-spk2.wav
Speaker 3	icdb_2015-11-04_02_overture-spk3.wav
Speaker 4	icdb_2015-11-04_02_overture-spk4.wav
Speaker 5	icdb_2015-11-04_02_overture-spk5.wav

3. ***A Beethoven Mesostic*** - 6mins
for Leo Svirsky

A solo piano piece for live pianist.

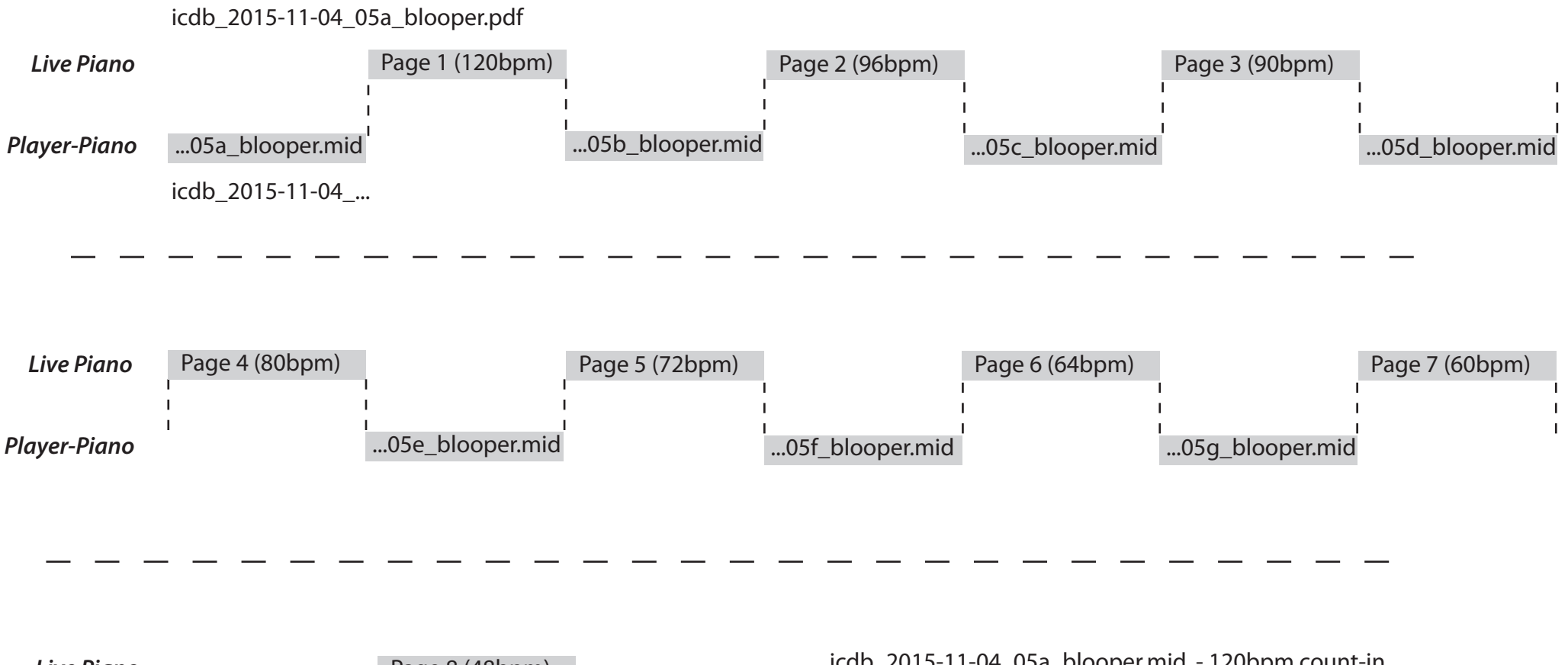
A musical mesostic created from collaging parts of Beethoven's 32 piano sonatas, using a five octave ascending chromatic scale as a cantus firmus.

Live Piano icdb_2015-11-04_02_beethoven.pdf

4. ***For John Baldessari*** - 1min

Video icdb_2015-11-04_04_baldessari.mp4

5. ***Augenmusic V: Blooper Reel*** - 4mins



icdb_2015-11-04_05a_blooper.mid - 120bpm count-in
icdb_2015-11-04_05b_blooper.mid - 120bpm rendition & 96bpm count-in
icdb_2015-11-04_05c_blooper.mid - 96bpm rendition & 90bpm count-in
icdb_2015-11-04_05d_blooper.mid - 90bpm rendition & 80bpm count-in
icdb_2015-11-04_05e_blooper.mid - 80bpm rendition & 72bpm count-in
icdb_2015-11-04_05f_blooper.mid - 72bpm rendition & 64bpm count-in
icdb_2015-11-04_05g_blooper.mid - 64bpm rendition & 60bpm count-in
icdb_2015-11-04_05h_blooper.mid - 60bpm rendition & 48bpm count-in
icdb_2015-11-04_05i_blooper.mid - 48bpm rendition

6. ***Augenmusik VI: Asch*** - 7mins

Live Piano icdb_2015-11-04_06_asch.pdf

Player-Piano icdb_2015-11-04_06_asch.mid

7. ***A Canon MG3250 Performs Cornelis Cardew's Treatise*** - 1min

Video	icdb_2015-11-04_07_printer.mp4
Speaker 1	icdb_2015-11-04_07_printer.wav
Speaker 2	icdb_2015-11-04_07_printer.wav
Speaker 3	icdb_2015-11-04_07_printer.wav
Speaker 4	icdb_2015-11-04_07_printer.wav
Speaker 5	icdb_2015-11-04_07_printer.wav

8. ***A Chronological Haydn/ Mozart/ Clementi/ Schubert/ Chopin/ Schumann/ Liszt/ Brahms/ Faure/ Scriabin/ Debussy/ Satie/ Schoenberg Mesostic*** - 3mins

Another musical mesostic chronologically moving through 294 pieces by the composers listed in the title.

Player-Piano icdb_2015-11-04_08_chrono-mesostic.mid

9. ***Anything You Can Do*** - 1min
for Annie and her gun

Live Piano icdb_2015-11-04_09_anything.pdf

Player-Piano icdb_2015-11-04_09_anything.mid