

Hexenhaus

[Ding-Dong]

For 2 or 4 musicians
(Open instrumentation)

Commissioned by festival
Dag in de Branding
The Hague, NL
December 2016

Rewritten for Karin Rüdt
& Susanne Guthauser
Oberrohrdorf, Switzerland
October 2018

Maya G.L. Verlaak



Context

I was commissioned to create a new piece for Dag in de Branding, a prominent Dutch music festival. The theme for this specific edition was De Tweede Haagse School or in English: "The Second Hague School", this implies a compositional school of thought. This term has very specific connotations and defining characteristics.

When I noticed that Dag in de Branding decided to advertise my new work as 'MAYA'S ROOM', I subsequently decided that this room, given by the Dag in de Branding, would be MY room. The performance would focus on the idea of exclusion. The participating audience would be put in the position where they can be excluded or accepted, they are therefore forced into a similar situation of how the organisers had selected composers for this festival. In order to emphasize the socio-political aspect of the piece, I created a system that only randomly (and rarely in order to make it exclusive) admits a person into my room, following a process that neither the participating audience member nor myself can control. The door of the room would be closed and the participant has to ask permission to come in. For this reason, I purchased a doorbell. By analysing the characteristics of this doorbell, I created a system that decides on accepting or refusing the participating audience member.

Whenever a participating audience member rings the doorbell, the computer microphone selects two random harmonics in this sound to analyse. It thereafter reacts in the form of a computer voice saying the interval between those two harmonics as: "DING DONG, INTERVAL ANALYSIS,... (analysed interval)." Only when an audience member ringing the doorbell, would by coincidence trigger a major 3rd, the computer would say: 'DING DONG, INTERVAL ANALYSIS, MAJOR 3RD, WELCOME' Where after this audience member can open the door and walk in.

After each Ding-Dong sound analysis, four (or two) performers play the computer-mentioned interval on instruments. When a participating audience member rings the doorbell several times in a row, a melody line will be created, (because the performers memorise all previously analysed intervals from that specific participant). If this participant finally reaches the major 3rd and the participant is allowed in the room, the full melody can be played back to him/her. This participant can then enjoy listening to his/her own created composition inside the room.

1. Material

- Doorbell
- Percussion mallet
- 4 instruments

- Laptop
- Maxmsp programming language
- Sound card/ interface
- Long jack cable
- 1 monitor speaker
- Microphone
- XLR cable
- Microphone stand

2. Preparations prior to the day of performance [In case the composer cannot deliver the doorbell!]

2.1 Searching for a mechanical doorbell



2.2 Recording the sound of the doorbell

2.3 Analysing the pitch spectrum of the doorbell:

The image shows three staves of musical notation. The top staff contains 15 notes, labeled 7 through 15. The middle staff contains 4 notes, labeled 3 through 6. The bottom staff contains 2 notes, labeled 1 and 2. The notes are arranged in a sequence that represents the harmonic structure of the doorbell sound.

The analysis of the sound of this doorbell results in a series of pitches as a combination of Db harmonics and Eb harmonics.

2.4 Writing down every possible interval between those pitches.

Minor 2nd Pitch 10 to pitch 11
Pitch 12 to pitch 13

Major 2nd: Pitch 1 to pitch 2
Pitch 3 to pitch 4
Pitch 5 to pitch 6
Pitch 7 to pitch 8
Pitch 8 to pitch 9
Pitch 9 to pitch 10
Pitch 11 to pitch 12
Pitch 13 to pitch 14
Pitch 14 to pitch 15

Minor 3rd Pitch 6 to pitch 7
Pitch 9 to pitch 11
Pitch 10 to pitch 12
Pitch 12 to pitch 14
Pitch 13 to pitch 11

Major 3rd Pitch 7 to pitch 9
Pitch 8 to pitch 10
Pitch 13 to pitch 15
Pitch 10 to pitch 13

Tritone Pitch 10 to pitch 14
Pitch 9 to pitch 13
Pitch 7 to pitch 10

Perfect 4th Pitch 4 to pitch 5
Pitch 5 to pitch 7
Pitch 6 to pitch 8
Pitch 8 to pitch 11
Pitch 9 to pitch 12
Pitch 11 to pitch 14
Pitch 12 to pitch 15

Perfect 5th Pitch 3 to pitch 5
Pitch 4 to pitch 6
Pitch 5 to pitch 8
Pitch 6 to pitch 9
Pitch 7 to pitch 11
Pitch 8 to pitch 12
Pitch 11 to pitch 15

Minor 6th Pitch 10 to pitch 15
Pitch 14 to pitch 9
Pitch 13 to pitch 8

Major 6th Pitch 9 to pitch 5
Pitch 3 to pitch 6
Pitch 7 to pitch 12
Pitch 10 to pitch 6

Minor 7th Pitch 3 to pitch 2
Pitch 15 to pitch 9
Pitch 14 to pitch 8
Pitch 13 to pitch 7
Pitch 11 to pitch 6
Pitch 1 to pitch 4
Pitch 3 to pitch 8
Pitch 4 to pitch 9
Pitch 5 to pitch 12
Pitch 7 to pitch 15

Major 7th Pitch 10 to pitch 5

Octave: Pitch 7 to pitch 14
Pitch 8 to pitch 15
Pitch 1 to pitch 3
Pitch 2 to pitch 4
Pitch 3 to pitch 7
Pitch 4 to pitch 8
Pitch 5 to pitch 11
Pitch 6 to pitch 12

2.5 Creating a computer application

[In case the composer cannot deliver the application!]

This application has a microphone input to receive the sound of the doorbell.

The application analyses two subsequent pitches (fundamental + harmonic or two harmonics) of the doorbell sound and triggers a sound file when two of the previously analysed doorbell pitches are recognised.

The triggered sound file is a computer voice analysing the doorbell sound into an interval. For example, the computer voice says: "DING DONG, INTERVAL ANALYSIS, (MINOR 7th)

When the computer application analyses a major 3rd, it says:
"DING DONG, INTERVAL ANALYSIS, MAJOR 3RD, WELCOME"

When someone rings the doorbell, the computer application will always react with a random choice of one of the 63 above listed intervals. Four of these 63 intervals are major thirds so the chance to trigger a major third is 4/63 or 6%.

3. Preparations on the day of performance

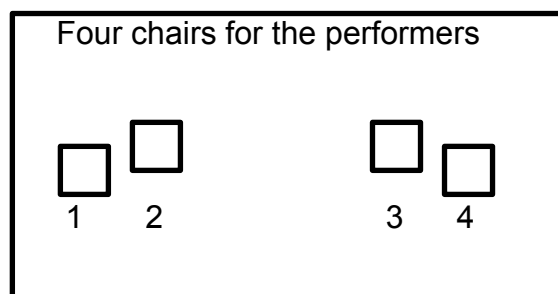
3.1 Preparing the entrance

- Attaching the doorbell and percussion mallet near the entrance of the performance space.
- Attaching the instructions under the doorbell.
- Installing the microphone, computer and monitor speaker near the doorbell.

USE PERCUSSION Mallet TO RING THE DOORBELL!



3.2 Preparing the performance space



Room

Outside: Audience, Computer, Speaker & **Doorbell**

3.3 Rehearsing the performance

Whenever someone rings the doorbell, the computer will analyse the sound and say an interval.

One audience member can ring many times and each analysed interval is (by the four or two performers inside the room) performed on their instruments.

The intervals accumulate as melody and as harmony:

Performer 1 plays the interval upwards (always starting from Db)

Performer 2 sustains the last played note of performer 1

Performer 3 plays the interval downwards (always starting from Db)

Performer 4 sustains the last played note of performer 3

When one of the performers reaches the top or bottom of the instrument range, the performer changes direction and plays the interval up instead of down or down instead of up.

The musicians memorise all performed intervals of one audience member until the major 3rd happens. When the audience member triggers the major 3rd, the performers should let him/her in the performance space and in addition, the performers perform the sequence of memorized intervals to the lucky audience member.

As example, when someone outside rings the doorbell:

(score order: performer 1,3,2,4)

The image shows a musical score for four performers, labeled 1, 3, 2, and 4 from top to bottom. Each performer's part is written on a single staff with a treble clef and a key signature of one flat (Bb). The score illustrates a sequence of intervals: a Perfect fourth, a Minor second, and a Major third. Dashed lines connect the notes across the staves to show the interval relationships. Performer 1 starts on Bb and moves up a perfect fourth to Eb. Performer 3 sustains Eb. Performer 2 moves down a minor second from Eb to E. Performer 4 sustains E. Performer 1 then moves down a major third from Eb to Bb. Performer 3 sustains Bb. Performer 2 moves down a major third from E to B. Performer 4 sustains B. The intervals are labeled above the notes: 'Perfect fourth' between Bb and Eb, 'Minor second' between Eb and E, and 'Major third' between E and B.

The computer says: “DING DONG interval analysis **perfect fourth**”

The four musicians inside play a perfect fourth, in harmony and melody (as seen in the picture above).

The same person outside rings the doorbell again.
The computer says: "DING DONG interval analysis **minor second**"
The four musicians inside play a minor second, continuing from the last note played. The same person outside rings the doorbell again. The computer says: "DING DONG INTERVAL ANALYSIS **MAJOR THIRD**, WELCOME"
The four musicians inside the performance space play a major 3rd, continuing from the last note played.

Once the audience member has entered the room, the four performers perform the same sequence of intervals created by the audience member, by ringing the doorbell: Db => major second => perfect fourth => major third.

The guest can stay as long as he/she wants in the room but can only exit when someone else enters.

