# it is impossible for everyone to achieve everything they want / James Saunders 

## INSTRUMENTS

6 players, each with:
small synth
sample playback device (e.g. tablet, mobile phone, keyboard, control surface)
tape dictaphone
analogue radio
megaphone
small mixer
powered speaker cabling

The samples are available from the composer on request.
duration: variable (c. 10-15 minutes)

## MATRIX

## PROGRAMME NOTE

it is impossible for everyone to achieve everything they want asks the players to construct sequences of sounds, responding to what they hear preceding players do. Players have control over their own actions, but generally not those of others. They can influence some behaviours but not control the group totally, although forming allegiances might enable more control to be exerted on the group. The piece uses a set of artificially constructed or presented sounds, including text-tospeech computer voices, recordings of real world sounds, algorithmically generated music, synthesisers, radio, dictaphones, and spoken commands delivered over megaphones. The title is taken from Larry Diamond's text 'What is Democracy?' (2004).
it is impossible for everyone to achieve everything they want was commissioned by Matrix New Music Centre, funded by the Ernst von Siemens Musical Foundation for the 2018 Nadar Academy. It was first performed by Nadar Summer Academy Ensemble at Transit Festival, Leuven, on 13 October 2018.

Each player needs a keyboard, sample playback device, megaphone, tape dictaphone and radio.

The keyboard and sample playback device should be routed to a mixer, then to a local speaker. If the performance space is large, the dictaphone and radio could also be routed to the mixer, but it is preferable to use their internal speakers.

The megaphone should not be routed to the mixer.
Keyboard: this should be a small polyphonic synth, ideally with on-board sounds but an external module is also possible if necessary. All the keyboards should be identical and small, around the size of a melodica. Each keyboard should use a different
synth/organ/pad sound, clearly artificial in its production: relatively quick onset to give a perceptible attack, and a fairly raw synth sound.

Sample playback: this could be a tablet, or a MIDI keyboard/control surface. Each of the sample playback devices should be prepared with the samples listed below. The synthesised speech, real world sounds, and DTMF tone samples should play through completely each time they are cued, then stop. The noise drones and algorithmic music should play while the trigger is held down, and stop on release.

Dictaphone: a tape dictaphone capable of record/playback at two speeds (normally $1.2 / 2.4 \mathrm{~cm} / \mathrm{s}$ ). The tape should be blank before the performance

Radio: an analogue radio with multiple bands (SW/MW/LW/FM where possible) with dial tuning and volume controls (not buttons).

Megaphone: a simple megaphone, with volume control to manage the balance.

All players should be seated at tables, in a line as indicated. This can be curved slightly if necessary.
The layout of equipment on each table should be identical, but may differ from the suggested layout in the diagram if needed.

Sounds should be localised for each player rather than being played through a PA. The speakers should be placed on or under the tables, and need to be audible to the players for cueing purposes.


1
2
3


6

## SAMPLE SETUP

## The samples should be loaded onto the devices of each player as indicated below.

## Player 1

alarm [120526__playpauseandrewind__alarm-clock-s-alarm-on].wav
indicator [195994__productionnow__car-turn-signal-blinker-left-and-right].wav
chicken [371216_mrthenoronha__cock-a-doodle-doo].wav
fire [91114__fasolt_fire-crackling-oven].wav
glass [194685__kingsrow__breakingvase01].wav
sneeze [185619_organicmanpl sneeze].wav
thunder [265119__vpdavo__rain-and-thunder-verandah].wav
typewriter [43559__tams-kp__typewriter19].wav

DTMF1.wav
DTMF7.wav
noise1.wa
noise2.wav
noise4 wa
music1.NKM-G-95-31-176531883-0-99-184-138-8-2116-61-0-82-101-113-101-113-121-0-0-0-0-0.wav music2.NKM-G-95-31-480347681-0-124-240-160-9-2194-55-0-87-109-14-108-0-0-0-0-0-0-0.wav music3.NKM-G-95-31-509460466-0-194-180-120-9-3442-65-0-87-101-99-101-98-102-98-102-0-0-0.wav music4.NKM-G-95-31-559039164-0-164-184-138-8-2772-64-0-99-109-13-110-0-0-0-0-0-0-0. wav music5.NKM-G-95-31-562758040-0-113-240-160-9-2192-55-0-35-109-35-108-0-0-0-0-0-0-0.wav music6.NKM-G-95-31-854203917-0-116-207-138-9-2708-59-0-113-101-98-122-0-0-0-0-0-0-0.wav

M1_a severe storm.wav
M1_tore down.wav
M1_the barn.wav
M1_the blind man.wav
M1_counted.wav
M1_his old coins.wav
M1_a pink shell.wav
M1_was found on.wav
M1_the sandy beach.wav
M1_the hail.wav
M1_pattered on.wav
M1_the burnt brown grass.wav
M1_a stuffed chair.wav
M1_slipped from.wav
M1_the moving van.wav
M1_green ice.wav
M1_frosted.wav
M1_the punch bowl.wav
M1_the red paper.wav
M1_brightened.wav
M1 the dim stage.wav
M1 dots of light.wav
M1_betrayed.wav
M1_the black cat.wav
M1_and.wav
M1_or.wav
M1 not.wav

Player 2
ball1 [329684_uzbazur345_plastic-bouncing-ball].wav
bell2 [219047__jarredgibb_church-clock-strikes-1].wav
fireworks3 [347163_kinoton_firework-single-rocket].wav
sun1 [217805__gattoangus_9mm-short-reverb].wav
pig1 [233182___arredgibb__pig-multiple-snorts-3-2-pigs-96khz].wav
racket2 [379335_13fpanska-marval-lukas_tennis].wav
stream [275627__hanneswannerberger__water-stream-river-sma].wav
wolf1 [256533_dkaufman_coyote-barks-and-howls].wav

DTMF2.wav
DTMF8.wav
noise5.wav
noise6.wav
noise8.wav
music7.NKM-G-95-31-927173326-0-220-180-120-9-2772-65-0-13-101-113-102-0-0-0-0-0-0-0.wav music8.NKM-G-95-31-1010337673-0-155-126-108-12-3276-61-0-13-102-91-901-0-0-0-0-0-0-0.wav music9.NKM-G-95-31-1259946844-0-94-198-132-9-3156-60-0-13-109-86-108-0-0-0-0-0-0-0.wav music10.NKM-G-95-31-1259946846-0-96-198-132-9-3156-60-0-13-109-86-108-0-0-0-0-0-0-0.wav music11.NKM-G-95-31-1610685484-0-811-180-120-9-3412-60-0-105-109-105-151-0-0-0-0-0-0-0. wav music12.NKM-G-95-31-1636437295-0-36-203-152-8-3248-66-0-113-121-34-127-0-0-0-0-0-0-0.wav

1_a stuffed chair.wav
1_slipped from.wav
F1_the moving van.wav
F1_green ice.wav
1_frosted.wav
F1_the punch bowl.wav
F1_the red paper.wav
F1_brightened.wav
F1_the dim stage.wav
F1_dots of light.wav
F1_betrayed.wav
F1_the black cat.wav
F1_a round mat.wav
F1 will cover.wav
F1_the dull spot.wa
F1_the knife.wav
F1_was hung inside.wav
F1_its bright sheath.wav
F1_the square peg.wav
F1_settled in.wav
F1_the round hole.wav
1 a streak of color.wa
F1_ran down.wav
F1_the left edge.wav
F1_and.wav
F1_or.wav
F1 not.wav

Player 3
burner [243763_nickpeeters_gas-vuur-dakwerken-gasbrander-luchtballon].wav cat1 [100030__nfrae__beef-mow1].wav
clock1 [170383__finalcrystine_cuckoo-clock].wav
door2 [155523_planet-leader_doorslam2].wav
drill4 [386248__Idezem_pneumatic-drill-desoutter-trough].wav
horse1 [149024_foxen10__horse-whinny].wav
telephone2 [38229_charliefarley ringuk1965] wav
toilet1 [274448__polytest toilet-flushing].wav
DTMF3.wav
DTMF9.wav
noise9.wav
noise10.wav
noise11.wav
music13.NKM-G-95-31-2182827645-0-834-180-120-9-3412-60-0-105-109-105-151-0-0-0-0-0-0-0.wav music14.NKM-G-95-31-2189957349-0-159-184-138-8-2772-64-0-99-109-13-110-0-0-0-0-0-0-0. wav music15.NKM-G-95-31-2191005925-0-158-184-138-8-2772-64-0-99-109-13-110-0-0-0-0-0-0-0.wav music16.NKM-G-95-31-2196277515-0-244-198-132-9-2386-72-0-101-102-87-129-113-102-0-0-0-0-0.wav music17.NKM-G-95-31-2251177121-0-235-192-144-8-2708-63-0-89-102-87-169-98-111-0-0-0-0-0.wav music18.NKM-G-95-31-3293711047-0-101-203-152-8-2196-64-0-116-121-87-127-0-0-0-0-0-0-0.wav

M2_a round mat.wav
M2 will cover.wav
M2_the dull spot.wav
M2_the knife.wav
M2_was hung inside.wav
M2 its bright sheath.wav
M2_the square peg.wav
M2_settled in.wav
M2_the round hole.wav
M2_a streak of color.wav
M2_ran down.wav
M2_the left edge.wav
M2_the goose.wav
M2_was brought straight from wav
M2_the old market.wav
M2_the kite.wav
M2_flew wildly in.wav
M2 the high wind wav
M2_the dry wax.wav
M2 protects.wav
M2 the deep scratch.wav
M2_the beetle.wav
M2 droned in wav
M2_the hot June sun.wav
M2_and.wav
M2 or.wav
M2 not.wav

[^0]
## layer 4

car1 [186959__readeonly__engine-start].wav
clap2 [267930__anagar__clapping].wav
oghorn [265977_tim-kahn air-horn].wav
gate1 [177194__barkenov___hard-grating-metal-gate].wav
laser1 [394919__navadaux__laser-gun].wav
wl2 [367964__bluedelta_owl-in-calm-environment-natural-reverb-4-channel-44khz].wav scream3 [169811__missozzy_female-scream-02].wav
heep2 [198118 photog123 hungrysheep].wav

DTMF4.wav
DTMF* wav
noise13.wav
noise14.wav
noise15.wav
noise16.wav
music19.NKM-G-95-31-610209656-0-102-184-138-8-2116-61-0-82-101-113-101-113-121-0-0-0-0-0.wav music20.NKM-G-95-31-20923533-0-174-180-120-9-2772-65-0-13-101-113-102-0-0-0-0-0-0-0. wav music21.NKM-G-95-31-3027273609-0-214-126-108-12-3276-61-0-13-102-91-901-0-0-0-0-0-0-0.wav music22.NKM-G-95-31-2340246981-0-162-126-108-12-3276-61-0-13-102-91-901-0-0-0-0-0-0-0.wav music23.NKM-G-95-31-1954816431-0-225-198-132-9-2386-69-0-101-102-108-129-113-102-0-0-0-0-0.wav music24.NKM-G-95-31-820125197-0-94-207-138-9-2708-59-0-113-101-98-122-0-0-0-0-0-0-0.wav

F2_the goose.wav
2 was brought straight from.wav
2_the old market.wav
2_the kite.wav
F2_flew wildly in.wav
F2_the high wind.wav
F2_the dry wax.wav
F2_protects.wav
F2_the deep scratch.wav
F2_the beetle.wav
F2 droned in .wav
2_the hot June sun wav
F2_light maple.wav
22_makes for.wav
F2-a swell room.wa
F2_the child.wav
F2_crawled into.wav
2 the dense grass.wav
2 the dusty bench wav
F2_stood by.wav
2_the stone wall.wav
F2_the duke .wav
2_left the park in.wav
F2_a silver coach.wav
F2_and.wav
F2_or.wav
F2 not.wav

## Player 6

bicycle1 [120373 faruku bycycle-rattle].wav
dog2 [328729_ivolipa_dog-bark].wav
duck1 [324087 iggyf north-yorks-mallard-frenzy].wav
fly1 [352075_kinoton_house-fly-take-of-fly-by].wav
horn1 [54086 guitarguy1985 horn] wav
paper2 [181773 keweldog tearing-paper4].wav
kid2 [104026 rutgermuller tires-squeaking].wav
tape2 [151446_tgfcoder__ripping-unravelling-packaging-tape].wav
music24.NKM-G-95-31-1954816431-0-225-198-132-9-2386-69-0-101-102-108-129-113-102-0-0-0-0-0.wav music26.NKM-G-95-31-57005736-0-212-198-132-9-2386-72-0-101-102-87-129-113-102-0-0-0-0-0.wav music27.NKM-G-95-31-57005736-0-212-198-132-9-2386-72-0-101-102-87-129-113-102-0-0-0-0-0. wav music28.NKM-G-95-31-3762651297-0-146-203-152-8-3410-65-0-89-109-0-0-53-128-53-128-0-0-0.wav music29.NKM-G-95-31-347541380-0-104-184-138-8-2116-61-0-82-101-113-101-113-121-0-0-0-0-0.wa music30.NKM-G-95-31-3041144190-0-80-207-138-9-2708-59-0-113-101-98-122-0-0-0-0-0-0-0.wav

M3_light maple.wav
M3_makes for.wav
M3_a swell room.wav
M3_the child.wav
M3_crawled into.wav
M3_the dense grass.wav
M3_the dusty bench.wav
M3_stood by.wav
M3_the stone wall.wav
M3_the duke.wav
M3_left the park in.wav
M3_a silver coach.wav
M3_the black trunk.wav
M3_fell from.wav
M3_the landing.wav
M3_the room.wav
M3_was crowded with.wav
M3_a wild mob.wav
M3_the pipe.wav
M3_ran almost the length of.wav
M3_the ditch.wav
M3_the ramp.wav
M3_led up to.wav
M3_the wide highway, wav
M3_and.wav
M3 or.wav
M3 not wav
noise21.wav
noise22.wav
noise22.wav
noise24.wav
music31.NKM-G-95-31-2328110257-0-182-192-144-8-2708-63-0-89-102-87-169-98-111-0-0-0-0-0.wav music32.NKM-G-95-31-4262797550-0-137-198-132-9-2386-72-0-101-102-87-129-113-102-0-0-0-0-0.wav music33.NKM-G-95-31-1376244840-0-197-184-138-8-2772-64-0-99-109-13-110-0-0-0-0-0-0-0. wav music33.NKM-G-95-31-1376244840-0-197-184-138-8-2772-64-0-99-109-13-110-0-0-0-0-0-0-0.wav music35.NKM-G-95-31-439009957-0-230-180-120-9-3442-65-0-87-101-99-101-98-102-98-102-0-0-0.wav music36.NKM-G-95-31-439010981-0-179-180-120-9-3442-65-0-87-101-99-101-98-102-98-102-0-0-0 wa

F3_the black trunk.wav
F3_fell from.wav
F3_the landing.wav
F3_the room.wav
F3_was crowded with.wav
F3_a wild mob.wav
F3_the pipe.wav
F3_ran almost the length of.wav
F3_the ditch.wav
F3_the ramp.wav
F3_led up to.wav
F3_the wide highway.wav
F3 a severe storm.wav
F3_tore down.wav
F3_the barn.wav
F3 the blind man.wav
F3_counted.wav
F3_his old coins.wav
F3 a pink shell.wav
F3 was found on.wa
3_was found on.wav
F3 the hail.wav
F3_the hail.wav
F3 the burnt brown grass.wav
F3_and.wav
3_and.wav
_-r.wav https://creativecommons.org/publicdomain/zero/1.0/


The text-to-speech recordings were made using the voices provided in Google Cloud Text-to-Speech. For full information, please se https://cloud.google.com/text-to-speech.

WolframTones
The algorithmic music samples were generated using WolframTones. For full information and to generate your own sequences, please see http://tones.wolfram.com/generate

The text read by the text-to-speech computer voices is taken from the 1965 Revised List of Phonetically Balanced Sentences (Harvard Sentences),, a series of 72 blocks of 10 sentences, each of which contains all phonemes in spoken English. They were originally developed to test synthetic speech.

The following sentences are used in the piece:

A severe storm tore down the barn
The blind man counted his old coins.
A pink shell was found on the sandy beach.
The hail pattered on the burnt brown grass.
A stuffed chair slipped from the moving van
Green ice frosted the punch bowl.
The red paper brightened the dim stage.
Dots of light betrayed the black cat.
A round mat will cover the dull spot
The knife was hung inside its bright sheath.
The square peg settled in the round hole
A streak of color ran down the left edge.
The goose was brought straight from the old market
The kite flew wildly in the high wind
The dry wax protects the deep scratch.
The beetle droned in the hot June sun.
Light maple makes for a swell room
The child crawled into the dense grass.
The dusty bench stood by the stone wall.
The duke left the park in a silver coach.
The black trunk fell from the landing.
The room was crowded with a wild mob
The pipe ran almost the length of the ditch.
The ramp led up to the wide highway.

## PERFORMANCE INSTRUCTIONS

The piece involves players acting in sequence, undertaking one of a set of actions when it is their turn
The piece begins with player 1 making the first action, followed by player 2 and continuing until player 6 makes an action. Player 1 makes the next action following player 6 . This sequence ( $1,2,3,4,5,6,1,2,3 \ldots$ ) continues throughout, unless disrupted by one of the megaphone actions.

Players have personal autonomy over what they choose to do when it is their turn, but may decide based on the choices made by others. They may use their actions in a collaborative manner, or to disrupt the activities of others.
Sometimes groups of players may manage to co-ordinate their intentions, but the default is individual decision-making.
The choice of actions is free, but the following should be considered:

- the piece explores multitasking, cognitive load, and decision-making
- the general pace of the actions should be fast, although wide variation should be explored.
- players can vary the density and complexity of the sequences of actions, managing the difficulty of response for other players
- repetition, patterning, or sequences of one action type might reduce the cognitive load on the responding players (reducing response times)
- do your best: sometimes things go wrong.

The piece ends when the players decide to stop making actions.
This requires a group understanding that the piece has concluded, but it may also result in a restart.
The approximate duration should be decided in advance, but it should last for approximately 10-15 minutes.

The following actions are possible:

## 1. TEXT-TO-SPEECH COMPUTER VOICES / KEYBOARD CHORDS

Each player has six computer speech sentences, each comprising three noun / verb / noun samples (e.g. a stuffed chair / slipped from / the moving van), as well as the words 'and' 'or' and 'not'.

When it is their turn to make an action, the player may trigger a computer speech sample of their choice. Normally, this would involve playing a sample that fits the sentence pattern, substituting one part of each sentence for an equivalent one. This might result in a wide range of sentences produced by players as they respond to decisions made by others (similar to the games Consequences or Exquisite Corpse), for example:

| a stuffed chair / slipped from / the moving van | a stuffed chair / tore down / the sandy beech |
| :--- | :--- |
| a severe storm / tore down / the barn | a severe storm / was found on / the moving van |
| a pink shell / was found on / the sandy beech | a pink shell / slipped from / the barn |

It may however also create other sequences that make less sense:
the left edge / a round mat / green ice / will cover its bright sheath / and / the left edge / and / not / a round mat
For each noun cue (not verb cues, or and/or/not cues), three other players respond by playing a triadic chord on the keyboard as specified in their score.
If responding to a female voice, the chord is played in the highest possible octave available on the keyboard.
If responding to a male voice, the chord is played in the lowest possible octave available on the keyboard.
Chords should be played as quickly as possible after the cue is given,
The players respond independently and should not aim to play in rhythmic unison (although this might occur naturally). Sounds should be generally short.
Players do not have a response for all the cues, and do not have a response for any cues they give themselves
The number of the player who gives each cue is indicated above the respective chord on the score.

Each player has a bank of samples which they may play back as an action. These are in different categories:

- tones: a selection of DTMF and beeps which are triggered as short sounds
- noise drones: four environmental or electric equipment drones. These are started as a player action and sustained until a later action for the same player, at which point the drone may be terminated.
- real-world sounds: a set of eight samples of everyday sounds. These are triggered as short sounds.
- music: six short sequences of algorithmically-generated music


## 3. DICTAPHONE

Players may operate their dictaphone to make recordings or play back these recordings.
This activity results in recordings of the performance being made, and played back either at approximately the same pitch, or approximately an octave lower at half speed
When recording, it is advisable to record for longer durations than the anticipated playback. If playback of blank tape occurs though, just let it run until the dictaphone is stopped

The three actions are:

- record: make sure the volume is set to maximum, the speed is $2.4 \mathrm{~cm} / \mathrm{s}$, and the tape is rewound. Press record.
- play: set the volume to a pre-determined playback level for balance, ensure the tape is rewound. The speed can be either $1.2 \mathrm{~cm} / \mathrm{s}$ or $2.4 \mathrm{~cm} / \mathrm{s}$. Press play
- stop/rewind: stop the recording or playback, and rewind the tape to the beginning.

When undertaking these actions, it is fine for the dictaphone buttons to click when pressed/released as this makes the action more explicit
Players may optionally choose to respond to previously recorded megaphone instructions when played back.

## 4. RADIO

Players may operate their radios as an action.
Radios should be set in advance to an agreed volume for good balance throughout.
The four actions are:

- radio on: turn the radio on
radio off: turn the radio off
- change band: switch from the current band to a different one (SW, MW, LW, FM)
- retune: retune the radio to a different frequency. Just rotate the dial a random amount and accept what comes out. Do not try to find any particular result (speech, music, interesting static etc.)


## 5. MEGAPHONE CUES

Each player has verbal cues that can alter the sequence of actions. These are spoken through the megaphone.

- 'reverse': the sequence order reverses. For example, if the normal 1-2-3-4-5-6-1-2... sequence is taking place and player 4 gives a reverse cue, then this would become 1-2-3-4-3-2-1-6-5-4... Equally, if more than one player gives this cue in close proximity, the direction may change regularly, for example 1-2-3-4-3-2-3-4-5-6-5-4-5-6-1-...
- 'skip': the next player in the sequence is missed out, so that the player after them makes the next action (they miss a turn).
- 'delay': a player giving this cue delays their action and may undertake it at a later point, out of sequence
- spoken number (e.g. '5'): a player may say the number of one of the other players through the megaphone. This player makes the next action. So if player 4 says ' 1 ' then player 1 makes the next sound, rather than 5 (or 3 ) if following along the line. After the new player makes their action, the sequence continues in the initial order ( 1 $2,3,4,5,6 \ldots)$.
- 'all': all players may freely do any of their actions continuously until a new megaphone cue is given. This might involve operating any of the devices, playing back samples, or keyboard chords. This will be a more chaotic situation. It can be terminated by a megaphone cue (spoken number, 'stop')
- 'stop': all activity stops. This is a way to create a break, or reset more complicated situations if necessary (such as mistakes, points where more than one sequence is active etc). Following a stop cue, there should be a short pause, long enough for the interruption to register. Any player may restart a sequence by giving the next cue. This might create a more confusing situation.
player 1

player 2

(1) (6)
player 3

(1) (6)
player 4

(1)
player 5

player 6


(1)

(1) ©

(1)

the hail
the burnt brown grass
player 1

(6)

(1)

(1) (2)

player 6

the red paper
the dim stage
dots of light

player 1 §
player 2

(1)
player 3

(1) (2)
player 4

(1) (2)
player 5

(2)
player 6


(1)

(1)

a black cat

(1)

a round mat
(3)

(3) (2)

the dull spot
(3)

(3) (2)
(3) (2)

the knife
(3)
player 1

player 2

player 3

player 4

(3) (2)
player 5

player 6

its bright sheath
(3)


the round hole
(3)

a streak of colour (3)

(2)

(3) (2)

(3) (2)

the left edge
(3)


|  | the goose |  |
| :---: | :---: | :---: |
|  | (3) | (4) |
| player 1 | 8 |  |

(4)
player 2

player 3

player 4

(3)
player $5 \xlongequal[8]{\text { § }}$

(3)


the dry wax

(4)

(3)

(3) (4)

the beetle
player 1

player 2

player 3

player 4

(3)
player 5
(3)

(3)

(3) (4)
player 6

(3)

(3) (4)

light maple

(5)

the dense grass

(5)


(5)


## the child


(5) (4)

(5)

a swell room

the dusty bench
(5)
(4)
player 1

(5) (4)
player 2

(5)
player 3


player 4

player 5


(6)

(5)

(5) (6)

(6)

the room
(5)
player 1

player 2

player 3

player 4

player 5

player 6



[^0]:    Player 5
    baby3 [393769_nektaria909_baby-cry].wav
    buzzer1 [164089_hypocore_-buzzer2].wav
    cannon1 [187767 qubodup cannon-shot].wav
    cow1 [233130 jarredgibb cow-moo-1-96khz] wav
    donkey3 [246406_felix-blume_donkeys-braying-at-the-market-of-assem-souk].wav
    frog1 [344639 dbgrant frogs].wav
    saw1 [320734 papercutteriohn sawing-wood].wav
    siren2 [325280 adam-n sirens].wav

