

This keynote presentation is available for you to download at <http://www.bradyharrisonpercussion.com/learningteaching-resources.html>

BE THE MUSIC:

**LIVE INTERACTIVE
ELECTRONICS**

LIVE INTERACTIVE ELECTRONICS?



Sound



Light



Touch



Motion

A man in a dark suit stands with his back to the camera, holding a large, glowing, multi-colored key high above his head with his right hand. He is positioned in front of a row of four identical white doors set into a dark, textured wall. The floor is dark and reflective. The key is emitting a bright, multi-colored glow. The text "MANY" is overlaid in large blue letters on the first two doors.

MANY

POSSIBILITIES



ON THE “DRUM BUS”

Hihat **Hot Hands USB Controller**

Downstroke (breaks plane)

Bass **Wiimote #1**

Button A = Wet Sound

Button B = Dry Sound

Snare **Wiimote #1 Nunchuck**

Button C = Wet Snare

Button Z = Dry Handclap

**All are MIDI Note Messages
from a button/switch
or accelerometer**

THERE IS ONE CONTROL LEFT...

Volume **Wiimote #1 Nunchuck**

Vertical Angle

**This is a MIDI
Control Change Message
from an accelerometer**



HARMONY

Wiimote #2 Controller ↔ Leap Motion Controller ↔ Wiimote #2 Controller

C Chord- Up Arrow

F Chord- Down Arrow

G Chord- Left Arrow

d min Chord- Right Arrow

Sustain- B Button

Individual notes- X Axis (left-right)

Volume of Sound 1- Y Axis (height)

Volume of Sound 2- Pitch/angle

Wax on, wax off...

Bring them up, bring them down...



MELODY

Wiimote #3 Controller

B- 2	A- down arrow
C- 1	B- left arrow
D- -	C- up arrow
E- home	D- right arrow
F- +	E- B
G-A	

All are MIDI Note Messages
from a button

Wiimote #3 Nunchuck

Volume of Melody- Pitch/angle

This is a MIDI
Control Change Message
from an accelerometer



ELECTRONIC SOUNDS ONLY?

LIVE CONTROLLER AUDIO EFFECTS CAN BE FUN AND EFFECTIVE ON ACOUSTIC INSTRUMENTS!

(especially on a variety of percussion instruments)

BACH CHORALE #371 – CHRIST LAG IN TODESBANDEN

Leap Motion Controller

Amount of Effect 1 (slow motion drive) -	Y Axis (up and down)
Amount of Effect 2 (grain delay) -	Z Axis (forward and back)
Frequency Shift (for both effects) -	X Axis (left to right)

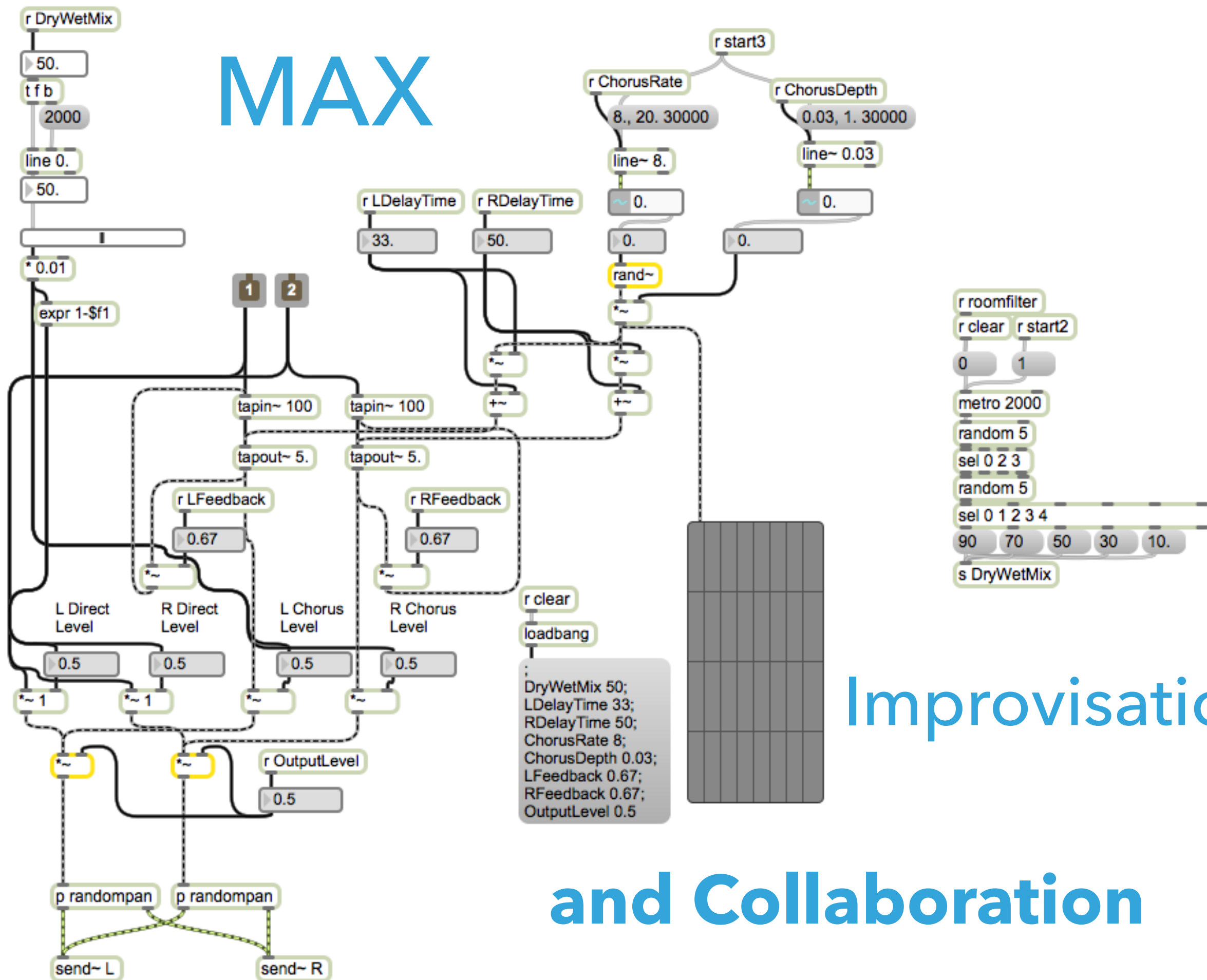
Remember the box.

SOFTWARE

- ▶ DAW- Digital Audio Workstation
- ▶ Osculator- OSC Routing (air traffic controller)
- ▶ Geco- for Leap Motion Interpretation
- ▶ MAX/MSP (or PD)- for Highly Customizing Patches
- ▶ There are **free** versions of all of this software.



MAX



Improvisation

and Collaboration

PERCUSSIVE METAMORPHOSIS FOR PERCUSSION ENSEMBLE

- ▶ Every player uses some kind of controller, and these only represent a few of the possibilities.
- ▶ Most controllers are very affordable, or you probably already have them!
- ▶ These tools foster student engagement from a broader population because of their collaborative nature.
- ▶ Special Thank You to Yamaha, Sabian, Innovative Percussion, and Xavier University for your support!



**XAVIER UNIVERSITY
ENSEMBLE**

PERCUSSION

PERCUSSIVE METAMORPHOSIS

by Brady Harrison

A close-up, low-angle shot of piano keys, showing the white and black keys receding into the distance. The lighting is dramatic, with strong highlights on the white keys and deep shadows in the black keys.

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