



Blurring Disciplinary Boundaries through Chiptunes

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BootUp PD



Video games and music education

- ▶ Within video games

- ▶ *E.g., rhythm games, Minecraft note blocks, ABC and freestyle music making*

- ▶ Through video games

- ▶ *E.g., modding and coding, machinima, chiptunes*

- ▶ Around video games

- ▶ *E.g., film scoring, performing, discussing*

Blurring Disciplinary Boundaries?



CHIPMUSIC

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SEARCH

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SIGNUP - FORGOT PASSWORD?

REMEMBER ME

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WHO'S ONLINE

defensem3ch

17 Guests 1 Member 7 Bots (+20 bot dupes)

SITE OPERATIONS

	TOPICS	POSTS	LAST POST
RULES & ANNOUNCEMENTS	19	515	Sep 22, 2013 10:25 pm by egr
BUGS AND REQUESTS	296	3,201	Sep 4, 2017 8:34 pm by m12345

COMMUNITY

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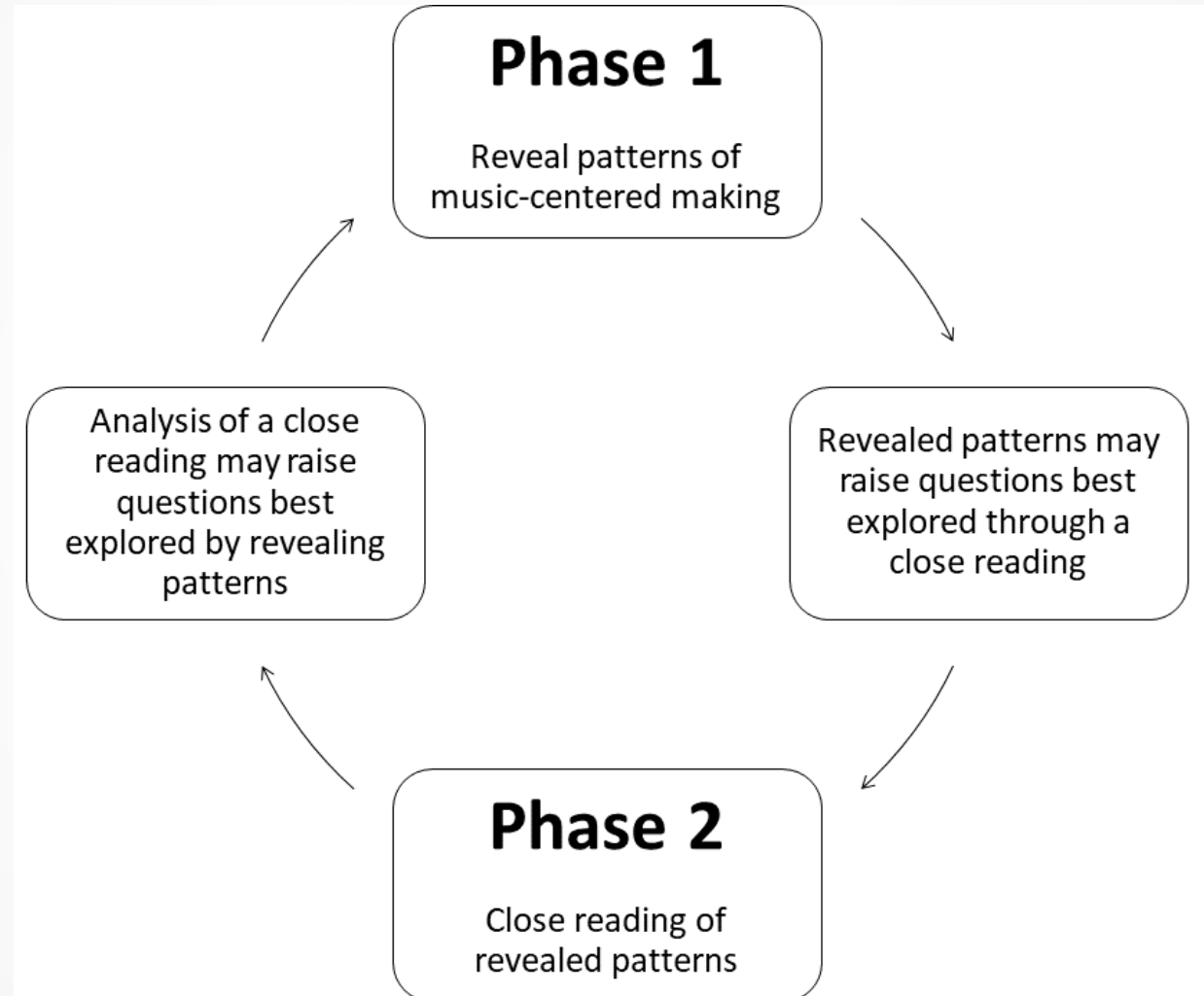
Setting



Data

- December 30th, 2009 – November 13th, 2017
- 245,098 discussion forum posts
- 10,892,645 tokens (total number of words)
- 150,247 types (total number of unique words)

Data analysis cycle





Seven interconnected themes

- Composition practices
- Performance practices
- Maker practices
- Coding practices
- Entrepreneurial practices
- Visual art practices
- Community practices

Composition practices

Theme one

FRAME 10

INSTRUMENT 07

NAME	HIP %	SP3
TYPE	HIT	CP0
KIT 05	TR-909	WAV
/ 11	GHETTO	161
VOLUME	3	161
OUTPUT	LR	1C 3
PITCH	00	2G#6
OFFSET	00/00	WBD
LEN	AUT/AUT	N
LOOP	OFF/OFF	
SPEED	1X	
DIST	CLIP	
VIB. TYPE	HF	
TABLE	OFF	

PHRASE 5A

0	BD-CYM	I01-00	SP2
1	- - - -	I01-00	CP0
2	- - - -	I01-00	
3	CHH - -	I01-00	WAV
4	SD-COW	I01-00	
5	- - - -	I01-00	
6	BD-RIM	I01-00	161
7	- - - -	I01-00	
8	- - - -	I01-00	1
9	- - - -	I01-00	2
A	BD - - -	I01-00	WBD
B	- - - -	I01-00	N
C	SD-CLA	I01-00	
D	BD-MAL	I01-00	
E	CHH - -	I01-00	
F	RIMCLP	I01-00	

PHRASE SA

0	BD-CYM	I01-00	SP2
1	- - -	I01-00	CP0
2	- - -	I01-00	
3	- - -	I01-00	
4	CHH - -	I01-00	
5	SD-COW	I01-00	WAV
6	- - -	I01-00	
7	BD-RIM	I01-00	161
8	- - -	I01-00	
9	- - -	I01-00	1
A	- - -	I01-00	2
B	- - -	I01-00	W8D
C	SD-CLA	I01-00	
D	- - -	I01-00	
E	BD-MAL	I01-00	
F	CHH - -	I01-00	
	RIMCLP	I01-00	

The screenshot shows a DAW interface with a piano roll at the top and a waveform view at the bottom. The piano roll displays multiple tracks including drums, bass, guitar, and vocals, with various MIDI notes and audio clips. The waveform view shows a single audio clip with a visible amplitude envelope. The interface includes a sidebar with categories and a main workspace with a timeline and transport controls.

Composition software

Performance practices

Theme two

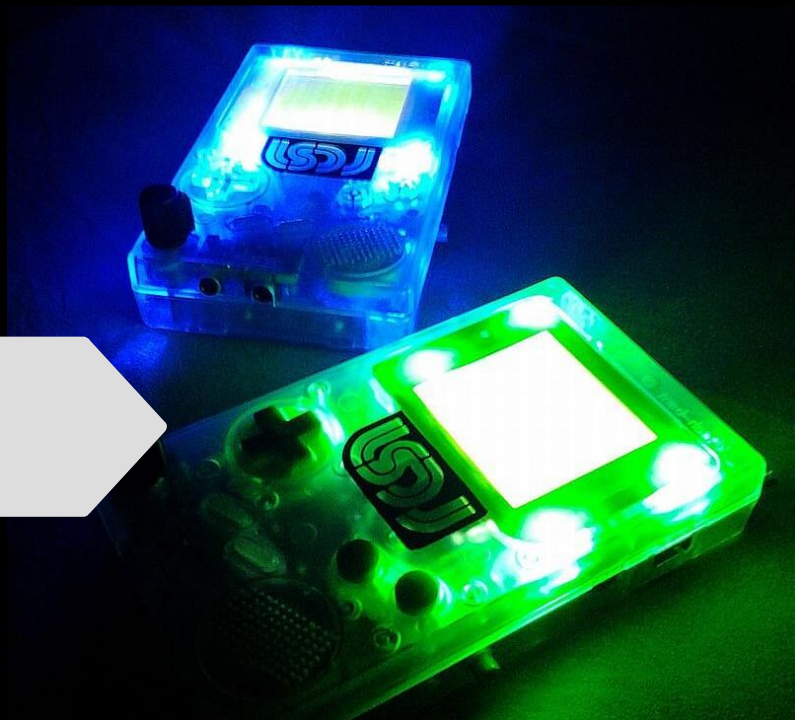
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Maker practices

Theme three



Aesthetic mods

Painting and dying



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Aesthetic mods

Laser engraving



Aesthetic mods

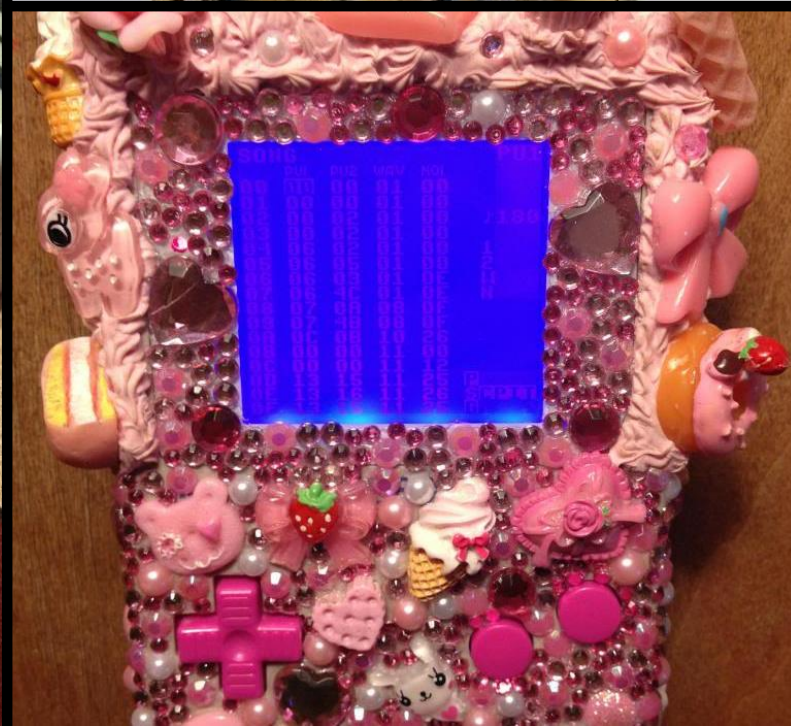
LEDs



Aesthetic mods

Accessories

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Aesthetic mods

Other physical mods

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Functionality mods

Prosound

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Functionality mods

Backlighting



Functionality mods

Clocking

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Functionality mods

Circuit-bending



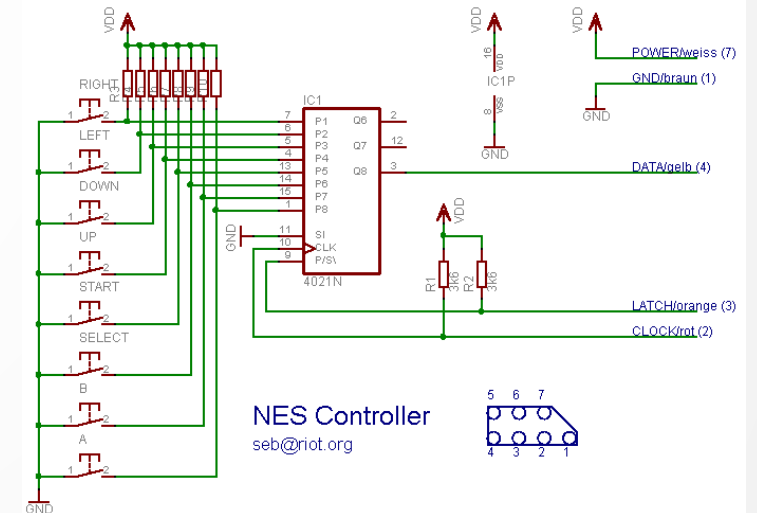
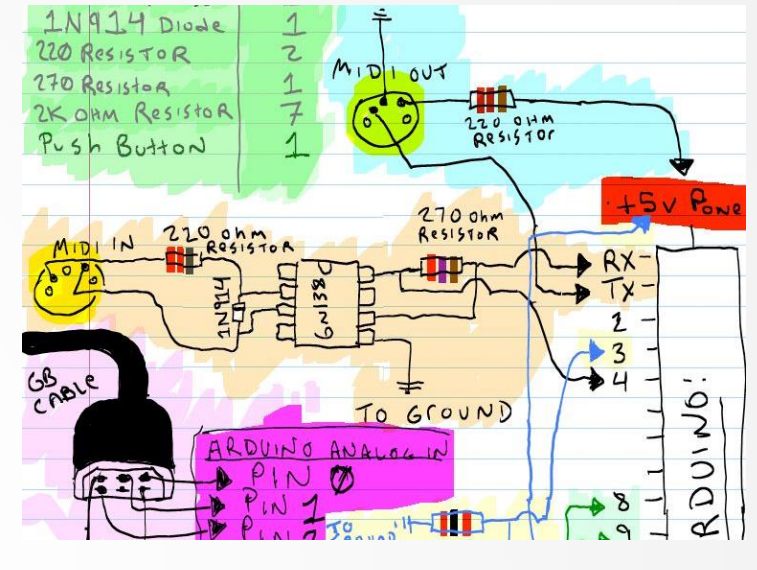
Functionality mods

Other mods



Electrical engineering

“Put a larger resistor in series with each color. For example, replace 150 ohms with 180 ohms and replace 150 ohm with 170 ohm. (those are the next size up in the standard E12 series.) Or, put a 22 ohm resistor in series with the common lead. . . Add a 100 uF or bigger value, 6.3 V or greater rated, capacitor across +5V and Gnd. in doing so, you need to make sure you find one that fits physically.”

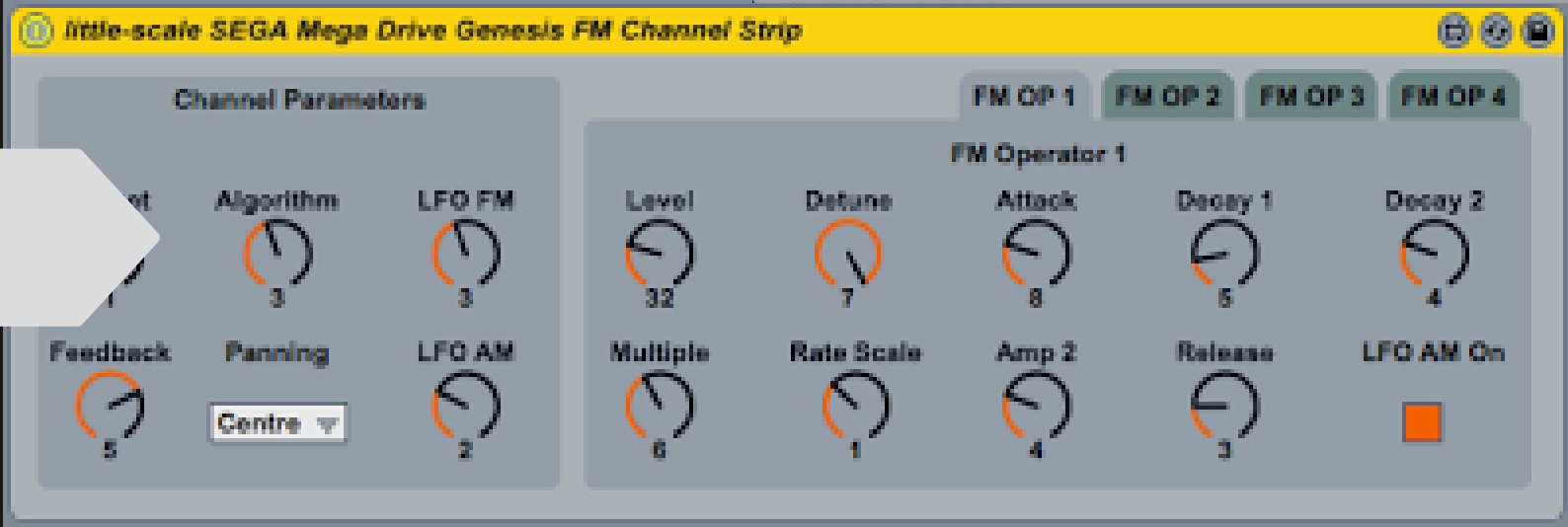
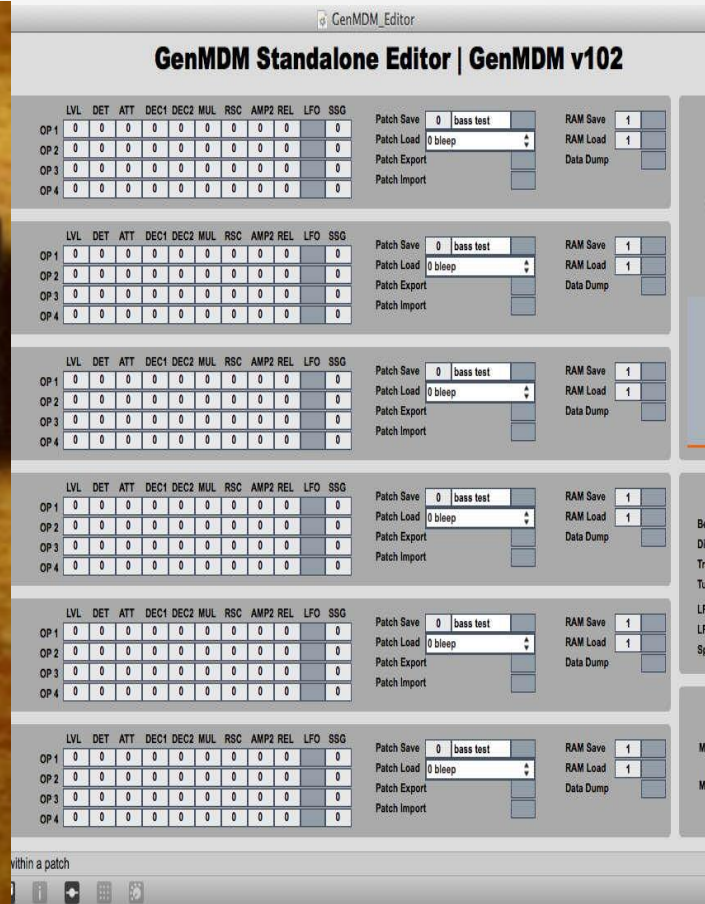




Perspectives on modding

- “Modding is really fun. For me, it’s part of the enjoyment of making music on Game Boys.”
- “Game musicians require mods to make the act of recording and performing music created using [sic] them easier.”

Manufacturing or building new devices



Coding practices

Theme four

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Here's how I'd do it, starting with the version at <https://github.com/trash80/Arduinoboy>;

In the file Mode.ino edit the function switchMode() as follows;

```
void switchMode()
{
  switch(memory[MEM_MODE])
  {
    case 0:
      modeLSDJSlaveSyncSetup();
      break;
    case 1:
      modeMidiGbSetup();
      break;
  }
}
```

And in the file Arduinoboy.ino, change the line;

```
#define NUMBER_OF_MODES 7 //Right now there are 7 modes, Might be more in the future
```

```
#define NUMBER_OF_MODES 2
```

That should pretty much do what you want.

Software development



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MARCH 20 & 21 EVELYN HOTEL

Entrepreneurial practices

Theme five



S Q U A R E [] S O U N D S
M E L B O U R N E 2 0 1 5

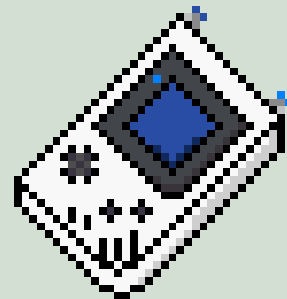
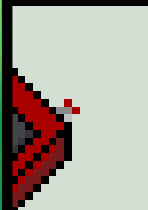
Selling, buying, and trading



Visual art practices

Theme six

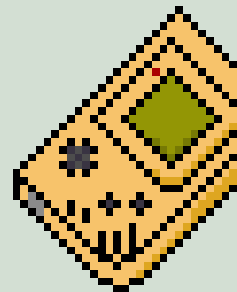
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Backlight

and 1/8
d rca

Pro Sound rca
Led Mod



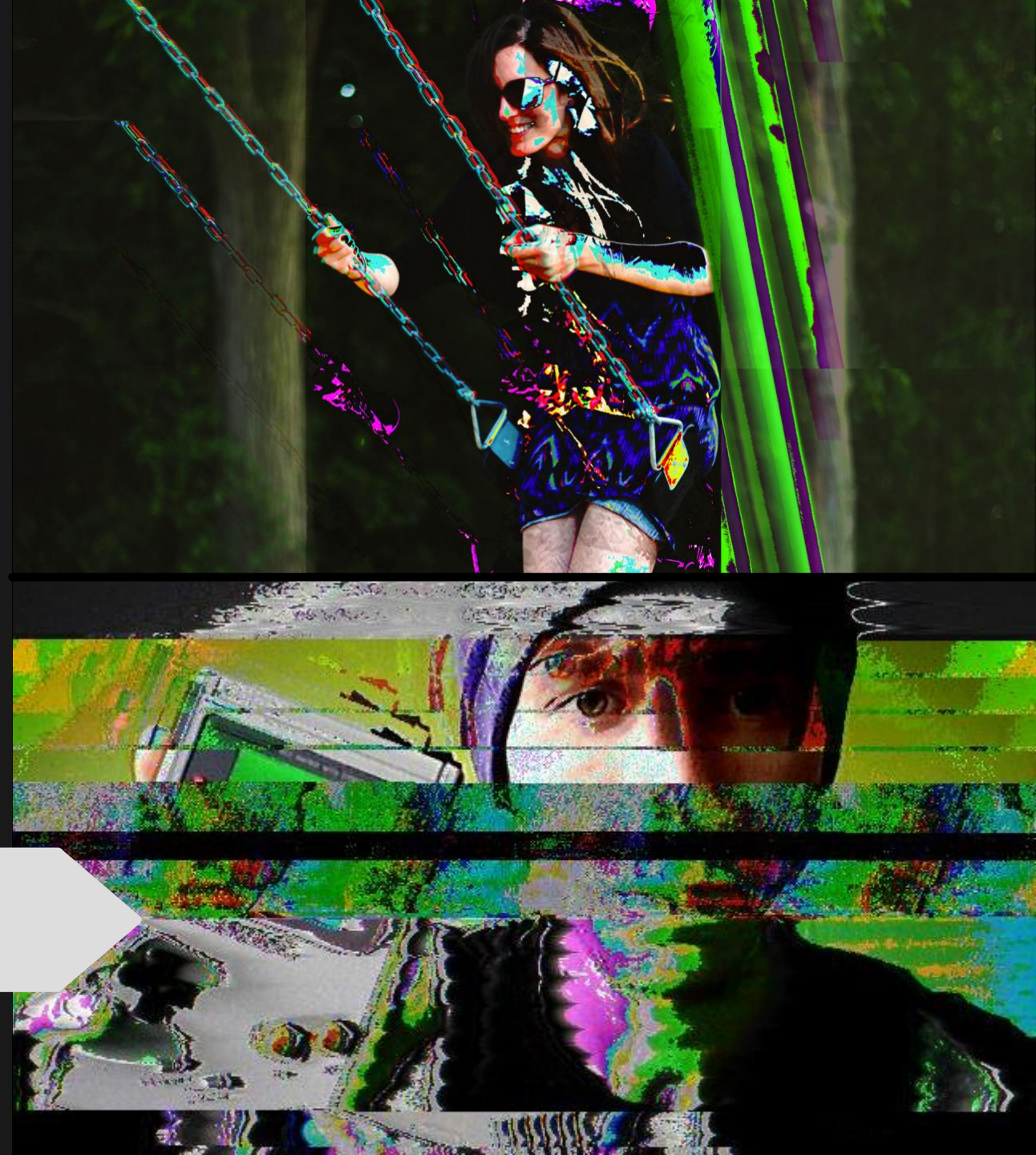
Pro Sound

Video mixing



Databending

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YOU HEARD ABOUT THE ELF ON THE SHELF. NOW GET READY FOR THE SPAMMER THAT GETS THE HAMMER.

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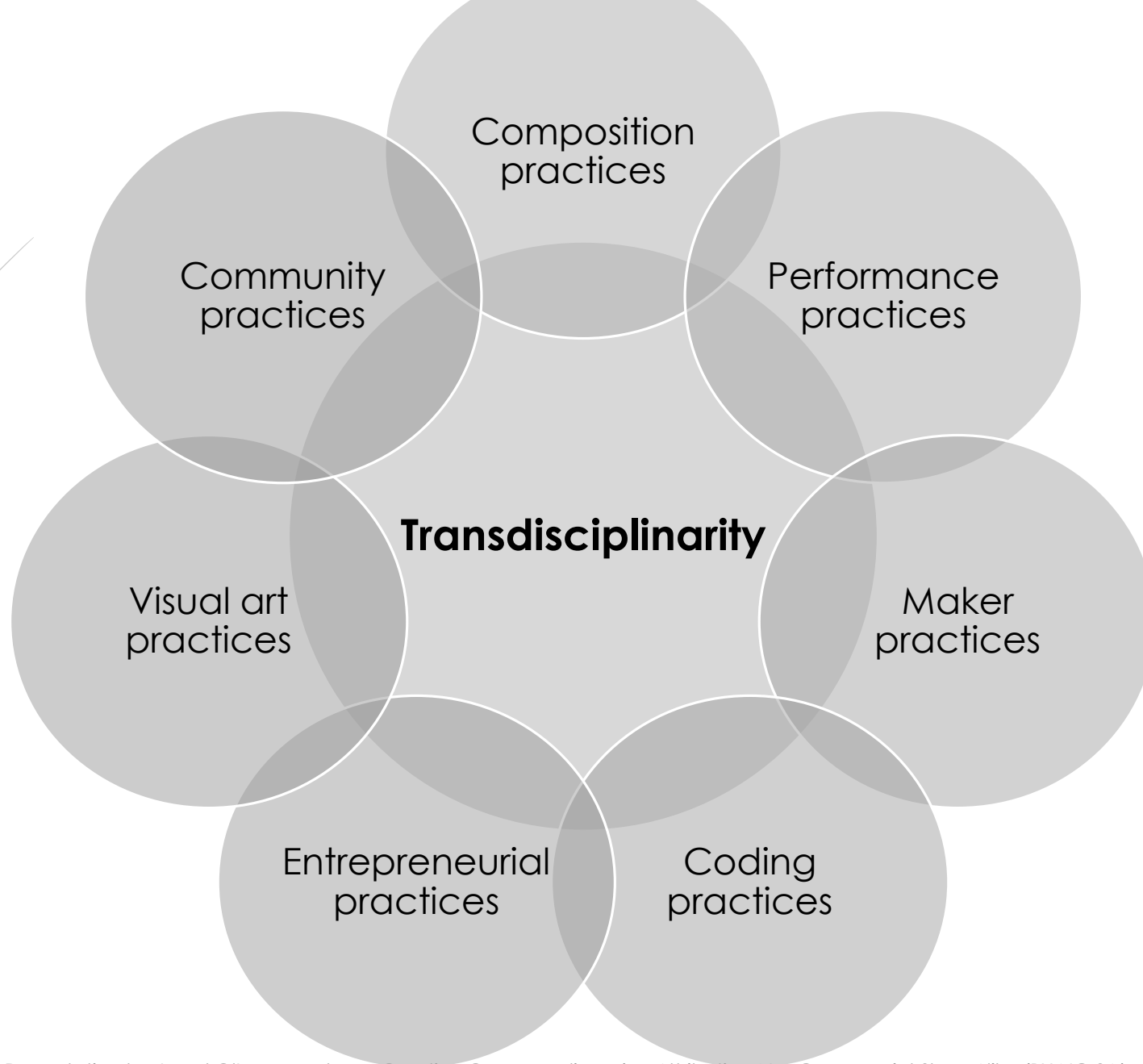
HARDWARE & SOFTWARE

	TOPICS	POSTS	LAST POST
ATARI	134	1,556	Apr 30, 2018 6:44 pm

Communal practices

Theme seven

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Chiptunes and null curricula

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National Core Arts Standards artistic processes and anchor standards

Creating

- #1 - Generate and conceptualize artistic ideas and work.
- #2 - Organize and develop artistic ideas and work.
- #3 - Refine and complete artistic work.

Performing/Presenting/Producing

- #4 - Select, analyze and interpret artistic work for presentation.
- #5 - Develop and refine artistic techniques and work for presentation.
- #6 - Convey meaning through the presentation of artistic work.

Responding

- #7 - Perceive and analyze artistic work.
- #8 - Interpret intent and meaning in artistic work.
- #9 - Apply criteria to evaluate artistic work.

Connecting

- #10 - Synthesize and relate knowledge and personal experiences to make art.
- #11 - Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

Blurred boundaries

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“it can be argued that aspects of maker practice are drawn from or resemble certain disciplinary practices, but no one discipline or singular set of established disciplinary practices captures the essence of participation in the making community”
(Brahms & Crowley, 2016, p. 25)

To read the dissertation, visit

- www.JaredOLeary.com
 - Publications | | Presentations
 - A corpus-assisted discourse analysis . . .

